THE FIRST COINS OF THE AMERICAS



By Peter Jones MA, MD, MBA

THE FIRST COINS OF THE AMERICAS

A collector's personal journey with cobs.

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The front cover shows a Spanish galleon firing its cannons at a Dutch warship (out of view), painted by Cornelis Verbeek, ca. 1618-1620. Image in the public domain taken from the National Gallery of Art, Washington, DC



Spain's First Silver Real. Pedro El Cruel 1350-1369

The obverse shows a crowned P with the legend: Dominus Michi Adivtor Et Ego Despicam Inimicos Meos (from Psalm 117, Verse 6: The Lord is my help and I shall look down upon mine enemies). The reverse shows a quadrilobed shield of Castile and León with the Seville mintmark at base. The legend reads: Petrus Rex Castelle E Legionis (Peter, King of Castile and Leon)

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Preface

In 1985, eight months after receiving a free Morgan Dollar in the mail, I started attending our local coin club, the Mansfield Numismatic Society, in Connecticut. The next month I went to a coin show and bought a 1964 mint set. This was the last year the US made regular issue 90% silver coins for their mint sets. I also bought a "War Nickel" (a war issue from 1942 to 1945 which substituted silver for nickel, a critical war material); and a "Steel Cent" (also a 1943 war issue which substituted steel for copper, another critical war material).

Two months later I bid on a coin at our coin club auction. The coin had the date 1787, and everybody said it was American. I had no idea America made coins then, but thought, "How can I go wrong for $55?" It turned out to be a Very Fine Fugio copper, the first coin authorized by the United States. Even in 1985, when I could buy such a historic coin, people still did not appreciate American colonial coins. Numismatics was growing on me.

Every year I traveled to "coin camp" for two weeks in Colorado Springs, run by the American Numismatic Association. I took courses on colonial coins, paper money, foreign money, medieval money, Spanish colonial coins, shipwreck coins and many other subjects.

Then I heard of Daniel Frank Sedwick. In those days he sent out photocopied lists of his coins for sale. I spotted Carlos and Juana coins — the first coins minted in the Americas. And nobody seemed to be interested. I thought, "Wow!" What a grand area to collect! These were the first coins of the Americas and I won't have much competition! And they were much rarer and older than the first production coins of the US Mint.

I also took courses on how to photograph coins — a specialized area. Even expert photographers often have no idea how to photograph coins and medals. Coins are eye candy for collectors. What better way to preserve our collections than by photography? I thought of producing a book with just photographs. But that seemed sterile, so I added the story behind the coins. The essence of numismatics to me is the beauty of each coin or medal, and the story behind it. I claim no great scholarship, but doubt you will see such detailed coin photographs elsewhere.

I do not collect coins with astronomical prices. For example, when Carlos and Juana cuartillos came up for auction, the prices reached in the low to mid five figures, and I stood back. What you collect should not break your bank. While I have many coins, I do not have everything. I am indebted to Heritage Auctions (HA.com) who have agreed to allow me to copy images. I am particularly indebted to Dan Sedwick, who not only agreed to write a foreword, but volunteered to help me with editing.

Before Spain set up a mint in Mexico City, they struck coins only for the Americas. In 1536 they struck the first coins in the New World, in Mexico City — the birth of numismatics in the Americas. In this book, I talk about our current understanding of these coins. In years to come this will change!

Each coin has its own story. As they say in the TV series *Law and Order* — these are their stories!

Foreword by Daniel Sedwick

This book is pure inspiration. Whether you are a seasoned collector or a nascent novice, you will finish this book with a sense of purpose and justification for the hours you spend pursuing coins for no other reason than you just want them. In these pages, Peter Jones demonstrates his personal journey of collecting the first coins (and pre-coins) of the Americas by relating the history behind each type and period and location. At every turn he makes sure to share his own angle and personal interest—and then he shows you each coin in the highest resolution possible, warts and all, so you can see for yourself what attracted him. As Peter points out, his goal was not *completeness*—as admittedly many coins were outside his range of attainability—so much as *representation*. The picture that emerges is that of a longtime collector fully sated with a sense of accomplishment and eager to share his joyful journey with the next generation.

There have been other books like this, such as like Thomas Sebring's *Treasure Tales* (1986) and James Bevill's *The Paper Republic* (2009), which were written *by* collectors and *for* collectors to relate the myriad of mind-excursions each collector takes with every acquisition, as opposed to giving the final word on every topic. One who buys coins for their value alone, without feeling the nagging curiosity of where each coin has been and what history it witnessed, is just an accumulator, whereas a collector truly loves each of his conquests and cannot stop until he or she understands its backstories. The ultimate in learning about your collection, as Peter shows us here, is to write about it.

He starts with the known history of each type of coinage by mint and country, and then forays into shipwrecks, a natural segue for coins that so often emanate from that source, even delving into the various methods of shipwreck salvage over the centuries. Along the way he provides many tables and maps in addition to the beautiful coin photos. Throughout the text he references all the top researchers in the field while proffering his own conclusions where needed. At the end he provides quick-reference guides, again with his own collection as a basis.

As a final note, I would like to say that in the thirty-odd years I have known Peter, he has always exemplified the Gentleman Collector, eager to learn and purchase within his means while enjoying friendship and camaraderie with his fellow numismatists. I am honored to call him my friend.

Dedication

To my wife, Ann, who has patiently withstood my serial addictions to the demands of medical practice, magic, classical piano, an MBA, flamenco and classical guitar, and all the way along numismatics and paper money collecting.

To my three daughters, violinist Ashley, architect Rebecca, and photographer Alexandra, who have also put up with the same addictions.

To the American Numismatic Association — an important organization that has fostered my lasting interest in financial history. To them I owe my numismatic education.

CHAPTER ONE
SPANISH COINAGE BEFORE THE NEW WORLD

Before the Spanish came to the New World, we need to answer three questions:

First: how did they manage without money?
Second: what are the functions of money?
Third: what was mercantilism?

First, I doubt the Spanish Crown gave much thought to money in the New World when Christopher Columbus sailed over in 1492. That had to wait until 1506.

Second, what are the functions of money?

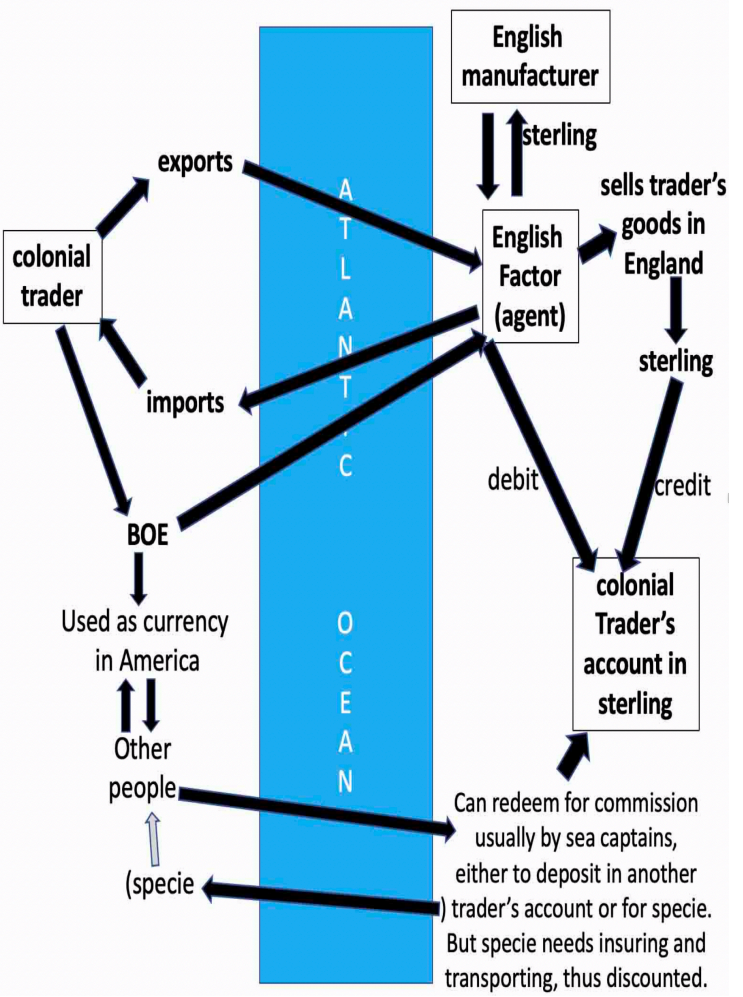
- a medium of exchange instead of barter
- a pricing mechanism
- a way to save for future purchases

Third, what was mercantilism?

No one sat down and wrote, "I have a brand new theory called mercantilism!" Macroeconomics was not sophisticated as it is today. It evolved in the 1500s in England, France, Spain and Holland. But it had no label. Sir Thomas Mun in England and Jean Baptiste Colbert in France were the biggest advocates of mercantilism in the 1600s. Adam Smith, in his 1776 *Wealth of Nations*, was the first to give it a name.

Encyclopedia Britannica says mercantilism was the economic counterpart of political absolutism. An easy way to understand it is: the country with the most bullion won — like the man who dies with the most toys. Silver and gold, not land, was the new measure of wealth. To achieve this, countries did the following:

- The mother country's interest always came first. They used the WIIFM principle: what's in it for me? Colonies had to benefit the mother country, not drain it.
- The mother country had to export more value than it imported to accumulate bullion.
- A mother country's colonies could only export goods to the mother country. The mother country would not send them silver and gold, but created accounts in the mother country, from which they made credits and debits. If a colonist wanted to buy something, they often paid for it with a Bill of Exchange (see above right).



How Bills of Exchange worked to keep specie in England.

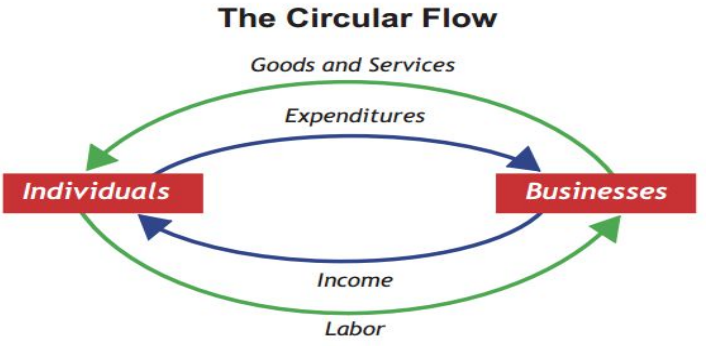
- Officially, you could not export silver or gold specie to a colony. But practically speaking, colonists needed some specie to exchange local goods. So, how much specie got to the colony was more a matter of degree. Also, Britain had to pay specie to British army regulars working abroad, who spent much of it locally.
- The mother country paid for imported raw goods from the colony by selling them their manufactured goods.
- Mother countries forbade their colonies to manufacture finished goods.
- Sumptuary laws, that defined who could wear fancy clothes or eat fancy food, prevented importing expensive goods to the colonies except for the chosen few.
- The mother country had to build expensive navies to police their sea routes.

John Law, one of the first men to study macroeconomics, studied how the Dutch had done so well. He concluded that the availability of money and credit were the reason for Dutch commercial success. Deciding paper money was the path to economic success, he wrote a treatise on a land bank in 1704, and another treatise on money and trade in 1705. He thought increasing the money supply would increase trade, production and employment. Presciently, he listed bank assets and liabilities as:

Assets	**Liabilities**
loans	deposits
specie on deposit	printed bank notes

He was also an early advocate of fractional reserve banking. With fractional reserve banking, banks could loan out more than the specie on deposit, and make money from interest, which increased credit and profit.

What is fractional reserve banking? Let us assume that the fractional reserve ratio is 50%. If a person borrows $100 from bank A, he can deposit that money in bank B, who can then loan out $200, which he can then deposit into bank C, who can then loan out $400. This multiplication effect increases the money supply — normal practice today.



Circular flow of goods, services and money.

John Law also originated the circular flow model of money (see above) later espoused in the 1750s by the French physiocrats. The physiocrats said that land development (read agricultural products) was the source of all wealth and should be highly priced. They were the first to emphasize productive work as the source of national wealth.

Nevertheless, Law's ideas almost bankrupted France with the ill-fated Mississippi bubble.

Another economist, Adam Smith, had even better ideas, expressed in his 1776 revolutionary book, *Wealth of Nations.* Smith spelled out the word mercantilism for the first time to describe this old system. But it also spelled the end of mercantilism. He advocated free trade, the division of labor, and legalized self-interest to enable each person to maximize his economic benefit.

Alexander Hamilton tried to put Adam Smith's ideas into practice in the new young America. He conceived the Bank of the United States to handle America's colossal revolutionary war debt. Congress drafted the Bank's first charter in 1791, which Washington signed. But in 1836, President Andrew Jackson vetoed the third rechartering of the bank. Instead, he transferred its funds to smaller "pet" state banks, setting back American banking for decades.

It was not until 1863 that the US National Banking Act would establish a regulated chain of National Banks with a fractional reserve system.

But let us return to the subject of this book — the Spanish New World and its coinage. The interesting part was how mercantilism applied to Spain importing silver and gold.

Columbus sailed to the Americas during the reign of Ferdinand and Isabella. His proper name was Cristoforo Colombo (1451-1506). He was supposedly born in Genoa, North Italy, son of a weaver. However, Professor Estelle Irizarry at Georgetown University studied his language and grammar in his official records and letters and concluded his mother tongue was Catalan.

Columbus' brother Bartolemeo was a cartographer in Lisbon. Aged 14, Columbus attended Prince Henry's navigation school in Sagres, Portugal, and eventually became a Portuguese merchant mariner. Aged 22, he apprenticed as a business agent for three prominent Genoese families.

In 1476, aged 25, he sailed to Chios in the Aegean, and three years later to Bristol, England; Galway, Ireland; and possibly Iceland.

Returning to Lisbon in 1479 he married Filipa, daughter of a Portuguese nobleman of Genoese origin. The nobleman father was proprietor of the six-mile long Porto Santo Island in the

Atlantic above Madeira. Columbus and Filipa lived there for a while, which may have got Columbus thinking about voyages west. His marriage also gained him access to royal courts. He had one son with Filipa, Diego. Unfortunately, Filipa died soon after his birth. Columbus never remarried, but in 1488 had an illegitimate son Ferdinand from Beatriz Enríquez de Arana.

Alejo Fernández painted the only contemporary portrait of Columbus (below). He had reddish hair, probably blue eyes, and went grey early.



Portrait of Columbus pointed by Alejo Fernandez 1531-1536.

Byzantium then controlled land routes for silk, opium and spices to Europe. But, after the Ottomans defeated Byzantium in 1453, access became tricky. Columbus, with his brother Bartolemeo, thought of a western route to the orient. However, they seriously miscalculated the earth's circumference.

Ptolemy calculated the Eurasian land mass occupied 180 degrees of the earth, but others had calculated 225 degrees. Christopher and Bartolemeo interpreted maps in Italian miles of 1.2 kilometers, downsizing the earth. Islamic scholars used Arabic miles of 1.8 kilometers.

Eratosthenes, a Greek astronomer (276-195 BCE) was the first to calculate the circumference of the earth. He calculated the distance from the Canary Isles to Cipango (Japan) as 12,200 miles. No ship could carry enough water for such a voyage. In fact few ships then travelled over 30 days without land fall.

No one knew America was in the way! Columbus miscalculated the distance as 2,400 miles. He got copies of a letter and map sent by Florentine scientist Toscanelli in 1474, who felt the same way. But Columbus also knew what few others knew: Atlantic winds were westerly from the Canaries, but easterly across the Northern Atlantic.

When he asked the King of Portugal to sponsor him in 1485, experts rejected him. By 1488 Bartolemeo Diaz had rounded Cape of Good Hope, presaging an easterly route to the orient.

In 1486 Columbus sought an audience with Queen Isabella of Spain, whose advisors likewise rejected him. But, perhaps to stop him inspiring others, they kept him on a retainer of 12,000 maravedis a year.

In 1492 Ferdinand and Isabella drove the Jews and the Islamic Moors out of Spain. Isabella also finally agreed to finance Columbus and agreed to make him "Admiral of the Seas." Columbus took coinage dies with him which he never used. But they refused his demand of 10% of any profits — they expected he would perish! But when fabulous wealth followed, the Crown tied up Columbus' descendants in court until 1790 — almost 300 years!

In August 1492, Columbus set sail in the Santa Maria, Pinta, and Niña from Palos, Spain, where the Pinzon brothers, leading citizens of Palos, took part and enlisted seamen. Columbus sailed to the Canary Isles for reprovisioning and set sail again on September 6. He sighted Caribbean land on October 12, only five weeks later.

Conquistadors' motives were "Gospel, Glory, and Gold". This meant converting natives to Catholicism and rising in nobility and wealth. Columbus' landfall was Samana Cay or San Salvador (Watling) Island. The natives there were friendly.

Later Columbus sailed to Cuba and Jamaica, then returned to Hispaniola (present day Haiti and Dominican Republic). Columbus wiped out the Tainos (Native Americans of Hispaniola), cutting off their hands if they did not bring gold,

which was very scarce. The Taínos had inferior weapons, so fled, committed suicide, died of European diseases, or were enslaved. Of 750,000 Hispaniola Taínos in 1493 only a few hundred were alive by 1550.

After settling La Isabella in 1494 in the north of Hispaniola, the Spaniards, under Columbus's brother, Bartolemeo, moved to Santo Domingo in the south of Hispaniola in 1495/6 — a better settlement. Columbus returned to Spain in 1496, leaving Bartolemeo as governor.

Columbus did set foot in present-day Panama, but not in what is now the United States. He spent most of his time in the Caribbean. When the Spanish first came to the New World, they brought supplies with them. But as they started settling, they needed money for exchange. There was no New World mint yet (that would start in 1536). Instead, they bought money with them from Spain. What circulated then?

In the 1400s the Kingdoms of Castile and León minted gold on the Almohad dobla standard of 4.6 grams of 99% gold, called an "Enrique" or a "Castellano" (see dobla de la banda overleaf).

In 1469, Ferdinand and Isabella married. Five years later Isabella became Queen of Castile and León. In 1479 Ferdinand became King of Aragon. Their kingdoms united in 1480. In 1492 they drove out the Moors, thus occupying 75% of Iberia, except for Galicia, Portugal, and Navarre, a tiny kingdom to the North. As every schoolboy knows: "In fourteen hundred and ninety-two Columbus sailed the ocean blue". But also that year the crown expelled the Moors and the Jews from Spain.

In 1497, Ferdinand and Isabella reformed coinage in the ordinance of Medina del Campo, the site of a medieval fair in north central Spain. The previous Spanish money of account, the maravedi, changed to the real. One real equalled 44 copper maravedis. In 1535, under Carlos and Juana, it changed to 34 maravedis.

The 1497 ordinance also covered the excelente, changing it to the ducat standard of 3.56 grams of 99% gold, not the dobla standard of 4.6 grams of 99% gold. This new gold excelente on the ducat standard became the escudo in 1537, under Carlos and Juana, weighing 3.3830 grams of 91.67% gold.

The silver real was 3.47 grams. A copper maravedi was 2.38 grams. The decree also called for an assayer mark on every coin. Burgos, Seville, Segovia, Toledo, Cuenca, La Coruña and Granada minted coins during Isabella and Ferdinand's reign.

The blanca was 1.19 grams, and worth half a maravedi.

The maravedi denomination had started as a gold dinar under the Moors in the 900s. Gold content fell during the 1200s. Then it became a silver, then a billon coin (less than 50% silver). The blancas and maravedis, by now almost pure copper, were the first coins Spanish sailors would use in the New World. Thus from 1497 to 1535:

1 real = 44 maravedis
1 maravedi = 2 blancas
1 excelente = approximately 15 reales

The earlier castellano's obverse showed the conjugate heads of Ferdinand and Isabel. Its reverse showed a shield of castles and lions only. This was after their marriage in 1469 and after Isabella's coronation in 1474 but before Ferdinand's coronation in 1479.

However, Isabella and Ferdinand's double excelente reverse (opposite) shows four squares, top left and bottom right, containing castles and lions. The opposite squares contain the shields of Aragon on the left and Naples and Sicily on the right. The pomegranate below represented the kingdom of Granada. Granada is the Spanish word for pomegranate. Spain conquered Granada, expelling the Moors in 1492.

The reverse legend reads SVB VMBRA ALARVM TVA(RVM), the Rosicrucian motto from Psalms 53, meaning, "Under the shadow of thy wing, (O Lord)."

In the pages that follow, I show a gold dobla, and silver 1, 4, and 8 reales, from Ferdinand and Isabella.

All these coins shown were current in Spain at the time. They did not mint them for the New World. Together Isabella and Ferdinand completed the "Reconquista" of Spain, i.e., the final expulsion of the Moors in 1492.

It was Isabella, originally of Castile and León, who financed Columbus' exploration of the New World.



1640

Ferdinand & Isabella (1474-1516) Seville Mint, Spain. Undated Double Excelente. CT-78; 27mm, 6.96 Grams EF Bent



2394

Dobla de la Banda, Seville Mint. 1442-1454. Juan II. MEC-1515; 31 mm, 4.48 Grams AU



2032

Spain Ferdinand & Isabella 1 Real Burgos Mint 1493-1515 EF



2855

Spain. First 4 Reales Ferdinand & Isabella (1476-1516) 1537 Seville Mint. CT-211; 33mm, 13.60 Grams EF



2733

Ferdinand & Isabella, 1476-1516 8 Reales, Seville Mint D Assayer. Probably Post-1537; 27.43 grams, 38mm NGC AU 58



Queen Isabella 1451-1504.



Ferdinand II 1452-1516

In 1497 Isabella and Ferdinand told Columbus he could mint gold in the New World and gave him rights, dies and personnel to accomplish this in Hispaniola. But Columbus never exercised this right.

Isabella died in 1504 and Ferdinand took over until 1516. He issued coins only for the Americas called the crowned F coinage, starting in 1505. This is collectible money related to the Americas.

The 4 maravedi piece opposite shows a crowned F flanked by the Seville mintmark on the reverse. This was copper Spanish issue only for the Americas.

The obverse shows crowned interlocked addorsed Js for Isabella (even though she had died), beside another crowned F. The legends read, + FERNANDVS ET hELISABET D GRAT. The reverse legend continues, + REX ET REGINA CAST LEGIO ARAGON. This translates as, "Ferdinand and Isabella, by the Grace of God, King and Queen of Castile, León and Aragon."

From 1505 to 1525, Spain shipped these coins mostly to Santo Domingo (in Hispaniola). The first shipment of two million maravedis arrived in Hispaniola in 1506. In fact, for a long time numismatists considered the coins part of the coinage of Santo Domingo. I bought the piece opposite as a Santo Domingo 4 maravedi piece. However, crowned F coins were struck in Spain, mostly in Seville, and included 4 maravedis, cuartillos (quarter real), half reals and one reals.

Documents in the Archives of the Indies in Seville show shipments to Hispaniola, Panama, Mexico, Puerto Rico, and Castilla de Oro. The King gave the name Castilla de Oro (Castile the golden) to Santa Maria del Darién. This was located on Darien Bay in what was then Panama, and is now Colombia.

New World gold exports were more important than silver. So the King increased the value of one real from 34 to 44 maravedi. He thought he could then buy more gold with it, as he had inflated the value of the one real! But merchants would not trade silver for gold at this inflated rate. Instead, merchants melted almost every crowned F one real piece, making them very rare today. Another justification quoted is that the one real pieces needed an inflated value of 44 maravedi to pay to transport silver to the New World, which sounds disingenuous.



2502

Crowned F 4 Maravedis Seville Mint. 1505-1525 CT-495; 29 mm, 5.03 Grams F

Merchants also preferred unmarked silver and gold because they did not have to pay the King's fifth (a 20% tax on all found bullion).

Opposite is another 4 maravedi piece. They struck this in Hispaniola, whose mint started in 1542. (The Mexico City Mint started in 1536.) The legend reads CAROLVS (ET IOHANA), continuing on the reverse REGI (S HISPANI) ARVM ET (I). This translates as Charles and Joanna, rulers of Spain and Indies. The obverse shows the same joined Js for Joanna, an F for the Assayer Francisco Rodriguez, and IIII with an "o" over, for 4 maravedis. The reverse shows the two crowned pillars of Hercules flanked by SP for Santo Domingo.

The Krause Mishler catalog lists Santo Domingo with Seville and Burgos crowned F coins, as all from Santo Domingo. Instead, they should divide them into coins minted in Spain (albeit for sole use in the New World), and coins minted in Santo Domingo.

The coin on page 20 is a crowned F real.

Spain shipped the last crowned F reales in 1525, except for a single issue from Burgos. These came from Lope Pérez de Maluenda, a Burgos merchant. He got a two-year license to mint 2 million maravedis worth of crowned F one real pieces, and crowned F one and two maravedis pieces. The mint master at Burgos struck these pieces in 1531, accounting for a late shipment past the 1525 cut off date. However, some Seville crowned F one real pieces show assayer marks suggesting they struck other crowned F coins from 1534 to 1543.

The Crown appointed Garcia Manrique, the Count of Osorno as Treasurer of the Mints in Santo Domingo and Mexico City, realizing that continuing to mint crowned F reales was unsatisfactory.

Calico Trigo, the standard Spanish coins reference does not list the coins overleaf, but Krause does in their Spain, Portugal and New World catalog. The marks either side of the shield come in several variations:

- S for Seville each side of the shield.
- S on the left and ermine on the right.
- Three dots arranged vertically each side.
- Four dots arranged in a cross each side.

The crowned F one real on page 20 has an obverse S but no reverse S. The crowned F real on page 21 has three dots each side of the shield with the mintmark on the reverse under the F. In the old edition of Calico Trigo, they incorrectly list these as Santo Domingo Mint issues. The 2019 edition does not list them.

The crowned F (see overleaf) one real's legends read, + FERNANDVS ET ELISAB, on the obverse, continuing with + REX ET REGINA CASTE LEGIO ARAR. This means, "Ferdinand and Isabella, King and Queen of Castile, Leon and Aragon." The obverse sports the Habsburg shield. The reverse shows a crowned F with a stylized ox yoke to the left and a bunch or arrows on the right, a personal insignia of Ferdinand, which I presume signify strength and aggression. The arrows point up on some varieties, and down on others.



Shield of Ferdinand II of Aragon and Isabella of Castile.

The Ferdinand II shield shown above amalgamates the following:

- The shield of Castile (represented by a castile) and León (represented by a lion) in the upper left and lower right quadrants
- The shield of Naples and Sicily with the two eagles, beside the vertical stripes of Aragon, in the top right and bottom left quadrants.
- At the base is pomegranate for the Kingdom of Granada, which they added to the shield in 1492.
- A yoke and sheaf of arrows, which Ferdinand II added, but which Charles and Joanna dropped.



631

Carlos & Juana. Santo Domingo 4 Maravedis 1542-1556 Francisco Rodriguez Assayer. KM-47 25mm, 2.87 Grams F



2852

Crowned F One Real Seville Mint. 1505-1525. CT-Unl; 27mm, 2.50 Grams EF



2851

Crowned F Real Seville Mint P Counterstamp for Panama. 1505-1525. CT318D; 27mm, 3.02 Grams EF



2113

FERDINAND & ISABELLA. BLANCA 1493-1515. CUENCA MINT. C-T 451; F

When Isabella died in 1504, the Castilian Court appointed Ferdinand and Isabella's daughter Joanna as queen. Her husband was Philip I, a Habsburg. Joanna then developed delusions with what sounds like schizophrenia. They called her Juana La Loca — Joanna the mad. Her husband then declared himself king. That was unwise as his father-in-law (Ferdinand II) was already king! Within the year, Philip fell mysteriously ill and died. Historians believe Ferdinand poisoned him.

Ferdinand II invaded Navarre, took Naples, fought against Venice and enlarged Spain. In doing so, he became King of Sicily, Naples and Navarre.

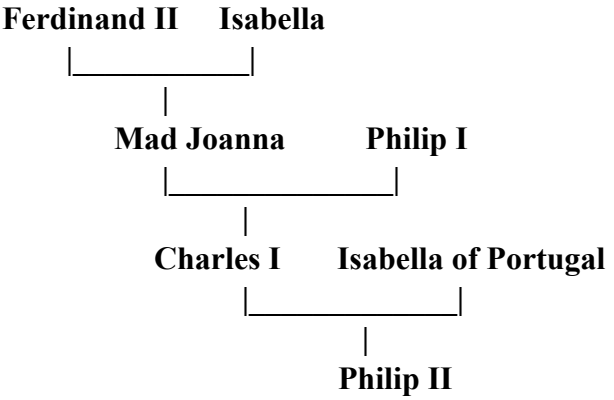
Isabella and Ferdinand's youngest daughter, Catherine of Aragon, married King Henry VIII of England. But she produced no male heir, just Queen Mary I, known as "Bloody Mary" for her murder of English Protestants. She would briefly marry King Philip II of Spain, and die soon after from a gynecologic tumor.

Henry VIII spent the rest of his life bumping off or dumping off his wives trying to get a male heir. His second wife, Anne Boleyn mothered Queen Elizabeth I, who would become the most stabilizing British Protestant monarch for around half a century. Henry beheaded Anne just two years and eight months after she bore Elizabeth, for "treason".

Mad Joanna's son was Charles I of Spain. Born in 1500, he reigned 1519 until 1556. Though he reigned jointly with his mother, the court would not allow his mother to make decisions. He married another Isabella (of Portugal) in 1529. She died in 1539.

The sequence of monarchs was:
- Ferdinand and Isabella
- Joanna and Philip I, husband
- Joanna's son Charles I and his mother Joanna

Put another way:



The second crowned F one real piece on page 21 has a P counterstamp which has split the coin. Scholars believe the P is for Panama. This could be Panama's first official coin.

The copper opposite is a blanca from the reign of Isabella and Ferdinand. Beneath the crowned F is a Gothic C for the Cuenca Mint. A blanca was half a maravedi — then the lowest denomination coin in Spain. This was small change for sailors.

A silver one real piece would have represented around two days pay for a sailor or laborer. The paymaster likely gave them their pay in coppers and cuartillos, rather than one, two or four reales pieces. Two or four reales coins would have been the equivalent of paying a laborer today with $500 bills or $1,000 bills!

References

Aureo & Calico. *Numismática Española.* Barcelona 2019.
Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published. Laguna Hills, CA. 2005.
https://en.wikipedia.org/wiki/Circular_flow_of_income#/media/File:Circular_flow_of_income_and_expenditure.jpg
https://en.wikipedia.org/wiki/Alejo_Fernández#/media/File:Christopher_Columbus_Face.jpg
https://en.wikipedia.org/wiki/Isabella_I_of_Castile#/media/File:IsabellaofCastile03.jpg
https://en.wikipedia.org/wiki/Ferdinand_II_of_Aragon#/media/File:Michel_Sittow_004.jpg
https://en.wikipedia.org/wiki/Coat_of_arms_of_the_King_of_Spain#/media/File:Ornamented_Coat_of_Arms_of_Queen_Isabella_of_Castile_(1492-1504).svg
https://en.wikipedia.org/wiki/Coat_of_arms_of_Spain

CHAPTER TWO
MONEY SUBSTITUTES BEFORE 1536

When the conquistadors came to the New World, they first used their own money from Spain and later the crowned F coinage discussed in the last chapter. This lasted from 1492 until 1536.

However, life soon exposed them to huge amounts of silver and gold. How did they react? First, they had to pay the King's fifth ("quinto real") on all bullion discovered in the New World. That meant you could not deposit a pound of silver with the authorities to ship back to your estate in Spain until you paid 20% to the king. Once paid, authorities put a tax stamp on the lump or bar, so everyone knew the bullion was privately owned and taxes had been paid.

Pradeau, in his seminal work on Mexican coinage, described 14 pages of native media of exchange used before the Mexico City Mint opened in 1536. He mentions Lord Kingsborough, who in his book *Mexican Antiquities*, enumerates tributes paid by vassal tribes to the Aztecs:

- cacahuapinol, a flour made from cacao and corn
- baskets of Chiampinoli (chia seeds)
- finely woven cotton cloth
- round shields made of multicolored feathers
- rims of paper from the maguey plant (agave)
- food like honey, beans and corn
- war implements
- live eagles
- deep red sea shells
- cochineal
- gold dust, gold leaf or gold planchets
- precious stones
- tiger skins
- copper axes
- amber ear rings set in gold
- jars of crystal amber
- emerald necklaces
- rubber
- copper shields
- reeds filled with aromatics.

Obviously, in a largely non-monetary economy, tribes paid tribute in goods, not in money. However, several authors, like Pradeau, Garcia-Barneche, and Bailey, talk about items that passed as money. We have already mentioned the functions of money:

- a store of value
- a medium of exchange
- a measure of worth

Bearing this in mind, we could construe the following items were used as money before the Mexico City Mint opened in 1536:

- cacao beans (cacahoatl)
- cotton fabric squares (patolquechtli)
- canutillos (duck quills with gold dust)
- beads
- tajaderas
- tepuzque
- plata corriente
- oro corriente (tejos)

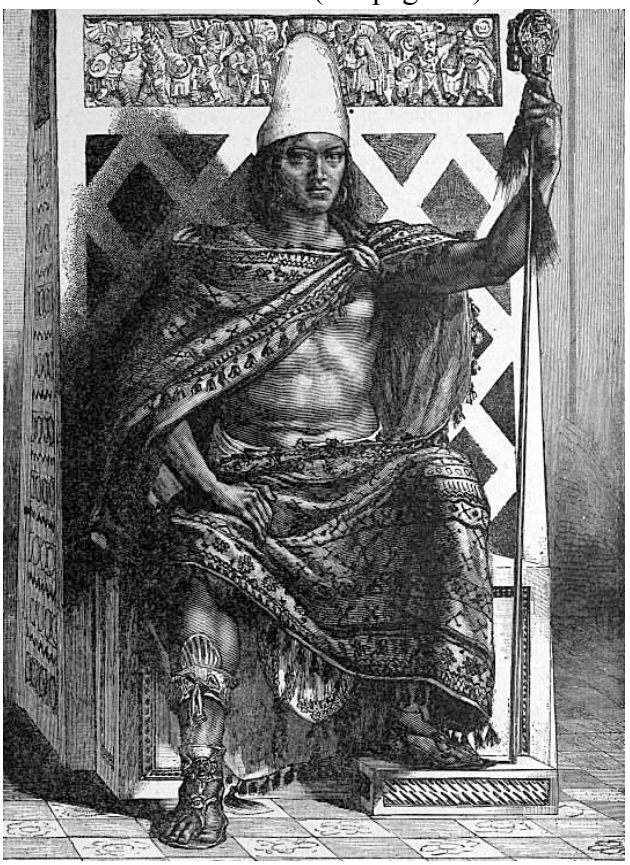


Hernando Cortez 1485-1547.

Before I discuss these items, a short interlude on Cortez's conquest of the Aztecs: In February 1519, Hernan Cortez left Cuba with 500 men. He arrived on the mainland after acquiring a multilingual interpreter Indian servant girl, La Malinche. Cortez burnt his ships to ensure that his men had no escape route. He elected himself chief administrator of the territory with allegiance only to the King. Diego Velázquez,

Governor of Cuba and Cortez's boss, disapproved of his activities. After occupying Tenochtitlan, capital of the Aztec Empire, Cortez left Pedro de Alvarado in charge, who massacred Aztecs and captured the Aztec ruler, Montezuma. Either Aztecs saw Montezuma as a Spanish puppet and killed him with a projectile, or the Spanish murdered him, seeing they could not count on him to control the masses.

Cortez returned to Tenochtitlan in June 1520 and had to flee the city with his men. He returned in August 1521 with Tlaxcalans and other tribes to find the Aztecs in Tenochtitlan in the middle of a smallpox epidemic. Consequently, Cortez easily overpowered the Aztecs. They built Mexico City over Tenochtitlan and drained Lake Texcoco around it (see page 49).



Montezuma II Ruler of the Aztec Empire in 1520.

Cacao beans

During Columbus' fourth voyage, Spaniards found cacao beans were the commonest medium of exchange. The natives of Guanajay and Tabasco also used them. They used another plant they called Patlachte, likely related to cacao but used only as a medium of exchange. Aztecs called cacao Tlalcacahuatl. Cacao came from the cacahuatl tree.

Montezuma II (1466-1520) was the ninth ruler of the Aztecs from 1502 to 1520 in the capital Tenochtitlan. He kept over 40,000 cargos of cacao beans. One cargo was 12 arrobas, each weighing 25 pounds. Thus 40,000 cargos was six thousand short tons! Now that's real money!

The Spanish traded cacao beans by count before 1527, and with a heaped standard measure after 1527, thus encouraging counterfeit beans. Other authorities say Spain outlawed counting in 1536 encouraging counterfeiting.

Where there is money there are forgers. Viceroy Antonio de Mendoza (Viceroy from 1535 to 1550 pictured below) sent altered cacao beans to the king, Native counterfeiters had removed the nutritious kernels of the beans and substituted dirt! It would be tempting to say the expression "bean counter" came from this. It did not; instead, it came from the German "Erbsenzähler" (bean counter) in the 1600s.



First Viceroy Mendoza



Second Viceroy Velasco

Luis de Velasco (pictured above) followed Mendoza as Viceroy in 1550. In 1555 he decreed that 140 cacao beans equal one silver real. Cacao bean value varied in different times. Another measure of cacao beans was the giquipilli, also spelled xichipilli (8,000 beans). Three equalled one balsa or saco. Locals used beans until the 1880s.

Tajaderas

Tajaderas have many other names: Aztec money, scraper money, axe money and hoe money. Tajadero is Spanish for chopping knife. One tajadera was worth one giquipilli i.e. 8,000 cacao beans. Interestingly, copper representations of spades, hoes, knives and spears appeared independently in Mesoamerica, Africa, China and

Australia as trade items or primitive money. Archeologists have called them "proto-money." Charles Opitz (see references) classified these items into different periods and origins. Though you can recognize each type visually, their weights vary widely. Shape trumped weight.

In Mesoamerica, the Mixtecs, Zapotecs and Tarascans started extracting copper and making this proto-money around 800 CE. Metallurgically advanced, the Tarascans knew that adding small quantities of arsenic and other metals lowered the melting point of copper, making it easier to smelt. They cast hoe money from arsenic bearing copper ore. Arsenic strengthens the copper and changes its color from pale pink to silvery white.

We know two types: T-shaped (representing axe blades), and gouge shaped (representing hoe blades). Some feel these pieces had a practical value as hide scrapers ('tajaderas').

An axe is a thick vertical blade to fell trees. A hoe is a thin flat horizontal blade to cultivate soil. Actually, the gouge-shaped type looks more like an adze, a thick curved horizontal blade to shape wood.



Tajaderas Opitz type 2b. Circa 1200-1522 CE

The first contemporary account of hoe money was in 1548. That year, Francisco Lopez Tenorio, who lived in Oaxaca, recorded in 'Archivos de las Indias' that the local types looked like a sliced mushroom (type 2b above). He commented that fresh pieces exchanged for 1 1/4 reales. He said merchants refused worn pieces, except to buy them to melt as scrap, at ten pieces to the real. Natives used lots of these, one piece representing several days' pay. Indians often buried their dead with tajaderas.

From 1862 to 1867, Republican Mexicans melted several wagonloads of tajaderas into bullets to fight the French. Pradeau felt Indians cast millions of tajaderas as money — the pre-Columbian equivalent of coins.

Axe or hoe money evolved simultaneously throughout six continents. I show a display of hoe money opposite. Opitz type 1 tajaderas date 800-1200 AD, and types 2 & 3 1200-1522 AD. Top left is Opitz Type 3b, top right 2b, bottom left 2a, and bottom right 1a.

Tepuzque

Merchants in Mexico made gold discs marked by weight and the kings arms, but soon the gold became debased with copper. Natives called it tepuzque (copper in their native tongue). It circulated from 1522 to the 1550s. The Mexico City Council resolved in 1526 that people could make gold slugs at the Fundición (the royal smelter and assayer). Slugs could be 1/8, 1/4, 1/2, 1, 2, or 4 pesos d'oro. One peso was 96 grains of gold or 6.22 grams. They ascribed three values:

- 1 peso of tepuzque worth 272 maravedi (8 reales)
- 1 peso of unrefined gold worth 300 maravedi (8.8 reales)
- 1 peso of assayed gold worth 450 maravedi (13.2 reales)

There was a problem: the gold composition was variable. While Pedro Espinosa was assayer from 1526 to 1528, the Spanish used tepuzque. In 1536, when the new Mexico City Mint started, Viceroy Mendoza ordered 1/8 peso of gold be equivalent to one real of silver. This meant 0.78 grams of gold was equivalent to 3.43 grams of silver — a ratio of only 4.4 to one.

In 1526 the Council of the Indies said they would recall all corriente (circulating bullion) and guanin (tepuzque) in four years because the foundry was stamping low grade bullion which decreased the King's fifth payments. Pradeau says in 1536 they called in all tepuzque. Prohibiting any further coinage of gold, the Crown received all gold as bars shipped back to Spain. Perhaps that is why no tepuzque gold discs survive today.



AZTEC HOE MONEY

Two types are known: T-shaped (representing axe blades), and gouge shaped (representing hoe blades). Alternatively, some feel these pieces had a practical value as hide scrapers ('tajaderas'). They were cast from arsenic bearing copper ore. Arsenic strengthens the copper, changing its color from pale pink to silvery white.

An Axe is a thick vertical blade to fell trees. A hoe is a thin flat horizontal blade to cultivate soil. Actually, the gouge shaped type looks more like an adze, a thick curved horizontal blade to shape wood.

Pre-Columbian media of exchange were cacao beans, cotton fabric, gold dust in quills, tin splashes, and cast copper tajaderas. It is reputed that gold discs called Tepuzque were cast but none have ever been seen.

A T-shaped tajadera was worth 250 cocoa beans. Montezuma kept 40,000 Cargas (two tons) of cocoa beans. These may have been a different species from modern cocoa beans, used only as a medium of exchange.

In 1548 Francisco Lopez Tenorio records in 'Archivos de las Indias' that shiny new tajaderas were valued at 1 ¼ Spanish reales, but if worn, were bullion value at 10 to a real. Tenorio said the natives used these pieces in great quantities, one piece representing several days' pay. Tajaderas were often found in Indian burials.

In 1862-7 Republican Mexicans melted several wagonloads of tajaderas into bullets to fight French invaders. Pradeau & Wood felt that countless tajaderas were cast as money – the pre-Columbian equivalent to coins.

Axe or hoe money evolved simultaneously throughout six continents. Type 1 tajaderas date 800 – 1200 AD, and types 2 &3 1200 – 1522 AD. Top left is Opitz Type 3b, top right 2b, bottom left 2a, and bottom right 1a.



2856

Plata Corriente With Partial Tax Stamp ?C 24 x 15 x 11 mm, 26.58 Grams F

Plata corriente and oro corriente

The word corriente means common, referring to normal spending size pieces rather than large ingots. People would pour the silver onto the ground forming thin discs called splashes, then break them into smaller coin sized pieces. The original ingot could have had a tax stamp to show they had paid the king's fifth. But authorities outlawed these smaller pieces, as they could not see whether the tax was paid. People had to weigh them. They were often around the weight of 27 grams (i.e., 8 reales or 8 escudos).

Some specimens had marks to show the king's fifth had been paid. Early assayers had no dies, but a blacksmith made crude dies to stamp these irregular pieces of metal to certify the King's fifth had been paid. The foundry moved from Montezuma's palace to Cortez's Tenochtitlan house in 1521, where they presumably made corriente pieces.



Plata corriente with tax stamp



Plata corriente without tax stamp.



Oro corriente without tax stamp.



Partial Tax stamp on gold finger bar. #1819

In 1526 Luis Ponce de León arrived to investigate Cortez. He brought new tax stamps for gold and silver. What people used to call "coinage of Cortez" was likely corriente money.

Silver Tumbaga Bars

Superb metal-smiths, the Tarascans were constantly at war with the Aztecs. They lived west of the Aztecs in what is now Michoacán, Mexico.

Crisobal de Olid (see page 39) grew up in Velazquez's household in Cuba and sailed with Cortez in 1519. Cortez sent Olid to conquer the Tarascans in 1522 with many Tlaxcaltecans and 174 Spaniards. The Tarascan chief, Calzontzin, chose not to fight. Instead he surrendered, giving up vast quantities of treasure.

Cortez wrote to the king (Carlos I), referring to the Michoacán metal as a combination of copper, silver and gold. Tumbaga is an alloy of silver, copper and gold with a lower melting point, which is probably why Tarascans combined the metals.



1536

Plata Corriente 38 x 19 mm, 28.13 Grams, Very Close to Weight of 8 Reales (27.47 Grams)



1688

ESPADARTE WRECK 1558 Off Mozambique. Oro Corriente. 18 x 20 mm, 18.98 Grams EF



Volcanic Isla de Janitzio on Lake Patzcuaro

The Spaniards took their gold and silver and returned to Tenochtitlan. But the Tarascans hid twenty chests of gold dedicated to the Gods. The wily Spanish found them anyway — on several islands in Lake Patzcuaro (above).

Cortez made a silver cannon for King Charles called "The Phoenix". It weighed 300 pounds, made of Michoacán silver of 700 to 1300 out of 2400 purity (29-54% pure). He also sent 5,000 castellanos of gold and 1,500 marks of silver to the king. A mark was 230 grams, so 1,500 marks was about one-third of a ton of silver!

The Spaniards divided the Tarascan artifacts into silvery and gold appearance. Melting the Tarascan treasure into bars using charcoal and bellows, they poured it into simple molds of clay, or sometimes just depressions in the sand. On some bars, you can still see incompletely melted trinkets poking out of the bars. The Spanish marked an "R" code on the bars, perhaps related to what they thought the purity was from their color.

The Spanish started a foundry in Michoacán in 1525, but inspectors closed it as they found they were not paying their quinto real taxes and instead selling metals direct to merchants.

They shipped these bars to Spain around 1528. But the ship sank on a reef north of Grand Bahama Island, called the "Mimbres" reef because of the willows that grew off the reef. Mimbres is Spanish for wicker or willow.

Some named the bars tumbaga after the Samana Bay and Tabasco Indian names, tuob and guanin, both referring to a low grade silver mixed with gold and copper.

Marex Company, a sea salvage outfit, excavated the ship, salvaging over 200 bars in 1993. They numbered the bars with M numbers (for Marex). Dan Sedwick says on his website: "In 1995 we had the great fortune to be offered 133 silver bars from this wreck… represent(ing) a corner on the market, as the rest of the bars found (including all the gold bars) were sold at auction or doled out to company officials and contractors well before we made our large purchase." The Sedwicks, fully aware of their importance, bought all of them.

There are three sizes of bars: small bricks under 5 pounds, large bricks of 6-8 pounds, and flatter bars of 9-12 pounds.

They also came as patties, from pouring the silver into a shallow bowl. Patties weighed 3 to 36 pounds.

People have suggested several names for these bars: tumbaga, Michoacán metal, and mimbres bars. But the name "tumbaga" stuck. Using neutron activation analysis, experts have shown a 23% variation with the contemporary Spanish assays. But other modern assays have shown the Spanish assays were quite accurate.

Many bars have two stamps. One may be a Michoacán mark, and the second a re-assay mark in Mexico City. Douglas Armstrong researched the stamps on the Tumbaga silver bars, publishing an 80 page booklet in 1993 (see references), interpreting the marks on the bars. When I bought Tumbaga bar M-57, I received a copy of the booklet with the bar.

Agustín "Augi" García-Barneche, Dan Sedwick's partner, published *The Tumbaga Saga* in 2010, with a second edition in 2018. He studied 194 bars, further developing our understanding of the bar markings. Armstrong had studied 170 bars.

García-Barneche divided the markings into:

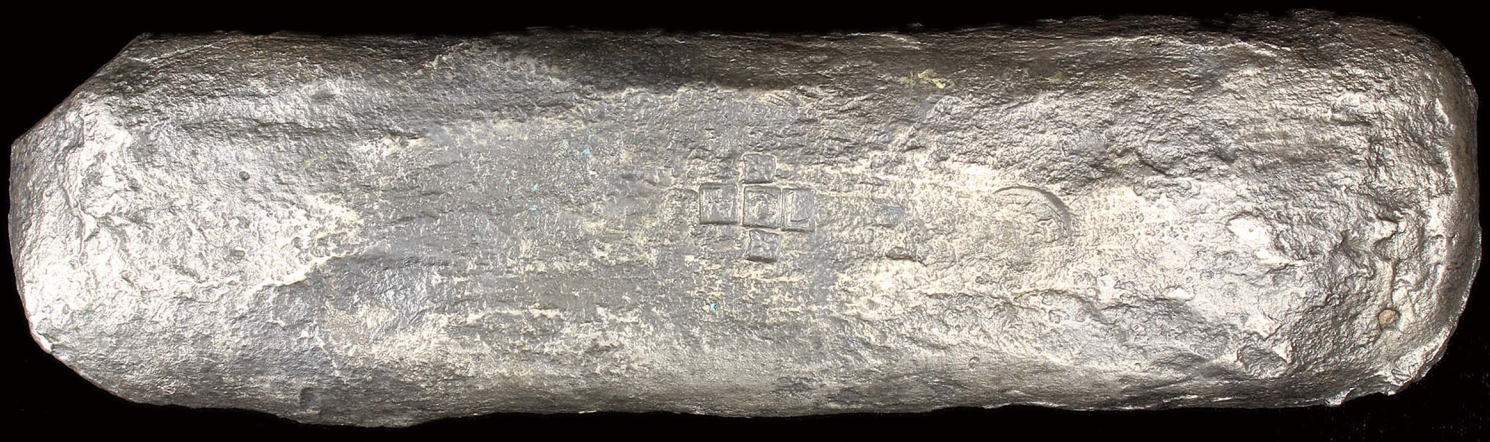
1. **Fineness stamps.** Assayers marked silver fineness out of 2400, and gold out of 24. They used a variety of different scripts for the numerals, though most are in Common Caroline script or Roman Square script.
2. **Partial tax stamp,** usually an arc of a circle, sometimes with visible lettering. As they lacked engravers, a blacksmith made an iron stamp. They only struck partial stamps to stop the punch from disintegrating.
3. **Owner** or quality controller stamps.
4. **Assay bite.**

Opposite at top left is the assayer's bite. Top middle is the fineness stamp. The X above and below this are the assayer's stamp. Top right is the tax stamp.











1531

Tumbaga Bar M-57. 1,488 Grams, 23 x 6 x 2 cm.

A. FINENESS STAMPS

The following table shows the fineness stamps:

#	Common Caroline	Roman Square	Modified Caroline	Italic Caroline	Roman
2,000	IIU	IIV	IIU	IIV	MM
1,000	IU	IV	IU	IV	M
500	9	∂	backward B	∂	D
100	C	C	C	(	C
50	L	L	L	L	L
10	X	X	X	X	X
4	IIII	IIII	IIII	IIII	IV
400	TTTT o	TTTT o	TTTT o	TTTT o	CD

After IV or IU they could write III instead of CCC.



Fineness markings on bar M-57. Fineness is IV, ∂, L, i.e., 1550/2400 fine.

Then there is the R code. On Daniel Frank Sedwick's website, he says the R followed by Roman numerals is a serial number of the bar. However, in Garcia-Barneche's 2018 *The Tumbaga Saga*, he refers to these as follows:

RL = over 2,000 fineness
RLXXX = 1,500-2,000 fineness
RC = 1,000-1,500 fineness
RCXXX = <1,000 fineness
R-codes may have been approximations of copper content (50-130/240 copper) from visual inspection, applied in Michoacán.

B. TAX STAMPS

The partial tax stamps show two concentric circles of pellets, between which were the letters CAROLVS : IMPERATOR X, with a castle inside the inner circle for the silver bars.

Gold tax stamps showed different lettering: POR IMPERADOR : DOM CAROLVS :

Using Imperador speaks to the fact that the Pope appointed Carlos I Holy Roman Emperor in 1519.



Tax stamp on Bar M-57

C. ASSAYER STAMPS

- X above and below the fineness, in Roman Square script.
- S before the fineness in Modified Caroline script.
- MS before the fineness in Italic Caroline script.

D. OWNER STAMPS

101 of the 194 bars had **B V** (- o) within a square cartouche, the owner stamp of Bernardino Vazquez de Tapia, one of Cortez's captains, as well as an assayer.

14 of the 194 bars had this mark: **Bo RA** within a rectangular cartouche, thought to be Alonso Garcia Bravo, a master builder in charge of Mexico City construction, or Anton Bravo, mine owner and encomendero.

Another owner was Joan de Becerra, a soldier and encomendero who arrived in 1526. This was his mark within a cartouche:

I o N
DE BCA

Five of the 194 bars showed the following mark, possibly Martinez de Salvatierra, an overseer for the Cuban Governor. This is his mark also within a cartouche:



Opposite are the fineness markings on my tumbaga bar, M-57. There is IV (looks like an N) then backwards C then L, with an X above and below. IV is 1,000, backward C is 500, L is 50. Thus the fineness of 1,550 out of 2,400 i.e. about 65% silver.

Also opposite is the partial tax stamp on my bar. It looks to me like + CA, i.e. the beginning of CAROLVS, but maybe I am reading too much into it.

If you look at the images on page 33, it also looks as if they poured the silver into a bath shaped mold, perhaps clay (top bar image). In addition, the flat top (bottom bar image) appears as though they covered it with cloth. Also several knobs stick up from the flat bottom suggesting these were larger lumps of silver objects that melted incompletely. Armstrong records this bar in his work, and comments that the mold of M-57 also matches the mold of M-56.

Gold Tumbaga Bars

The Tumbaga wreck also had thirteen low fineness gold bars. These had the fineness marked in Roman numerals out of 24. They also had S and B marks, probably also owner marks. Because the gold bars are more plentifully stamped with the tax stamp, this has enabled an easier reconstruction of what the whole stamp actually looked like.

The tax stamp reads DOM CARLOS POR IMPERADOR between the concentric circles of pellets. Inside the inner circle was a crown over a Burgundy Cross, with an S on the right perhaps for Santo Domingo, and X on the left for the assayer. Although Carlos I became King in 1516, he became Holy Roman emperor (Imperator) in 1519. This suggests they made the stamp after 1519. Cortez did not invade Mexico until 1519, and Olid conquered the Tarascans in 1522, so these dates tie in.

When elected Emperor in 1519, Charles I inherited Habsburg lands (Netherlands and Austria) from his grandfather, Maximilian I. Charles I then became Charles V of the Holy Roman Empire.

Tumbaga silver bar tax stamps read CAROLVS IMPERATOR X, and the center shows only a castle. Tax stamps are almost always partial.

The Tumbaga gold bar overleaf shows 5 tax stamps, clearly using just the edge of the stamp to preserve the stamp for future use. There are six fineness stamps of VI, meaning the bar is six carat or 25% gold. There are two owner stamps of B, perhaps for Bernardino Vazquez de Tapia, one of Cortez's captains, as well as an assayer.

The front is somewhat flat, though a little rounded at the edges, and received all the stamps. The back is perhaps a line drawn with a thumb in clay. As the bar is 28 mm wide, it is too wide for a finger, but wide enough for a large thumb. I have also read they poked tubes in boxes of damp sand to use as molds for finger bars. But this would not explain the constricted middle of this bar (see page 38).

The bar has been cut at one end, perhaps an assayer bite.

García-Barneche summarizes in his book that the Spanish conquistadors were ill-prepared to smelt such enormous quantities of silver and gold so early in their conquests. They had no official foundry at the time and resorted to Tarascan techniques to melt the metals. They also had some experience from seeing the work of native Cuban smelters.

After re-assaying in Mexico City, the Spanish sometimes used cryptic and temporary markings for purity and ownership.

Fineness of gold bars ranged from 27.6 to 73.5%.

Silver Tumbaga bars contained the following ranges of metals:

- Gold — 0.4 to 6.2%
- Copper — 20 to 32%
- Silver — 53 to 92%













1819

Tumbaga Gold Finger Bar Details. 5 Tax, 6 fineness, 2 Owner Stamps. 229 mm, 310 Grams



Location of Mimbres Shipwreck off Grand Bahama Island

I show sections from the gold bar opposite, enlarged to show the stamps. Overleaf is the complete tumbaga gold finger bar, #M-1014. García-Barneche photographed and referenced both this bar and the silver bar in *The Tumbaga Saga*. The gold bar is even referenced on the cover of his book!

The S in the center of the tax stamp raises the possibility that they picked up the gold bars separately in Santo Domingo or Cuba, before returning to Spain. But if that were the case, why did they wreck northwest of Cuba and Santo Domingo?

Here is the answer: Once they started from Veracruz (see map above), they would have travelled to Havana. All ships had to stop in Cuba before returning to Spain. Though the gold bars may have been struck with an S tax stamp, they likely picked them up in Havana, Cuba, rather than Santo Domingo. They typically navigated through the Florida Straits and picked up the gulf stream flowing northeast. This is why they shipwrecked off Grand Bahama Island 350 miles northeast of Havana. Daniel Frank Sedwick's website has a map of shipwrecks, and it shows a concentration of shipwrecks along the Florida Straights.

The gulf stream flows northeast. Also, trade winds blew east in the northern Atlantic and west in the southern Atlantic.

References

Armstrong, D.R., *Tumbaga Silver for the Emperor Charles V of the Holy Roman Empire.* Self-published Palm Bay, FL 1993.

Aureo & Calico. *Numismática Española.* Barcelona, Spain 2019.

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks.* EN RADA publications, West Palm Beach, FL 2003.

Garcia-Barneche, A., *The Tumbaga Saga.* 2nd Edition. Daniel Frank Sedwick Publishing, Winter Park, FL 2018.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.

Opitz, C.J., An Ethnographic Study of traditional Money. First Impressions Printing. 2001.

Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.

Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published. Laguna Hills, CA. 2005.

Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007

https://en.wikipedia.org/wiki/Moctezuma_II#/media/File:Aztecexpansion.pnghttps://en.wikipedia.org/wiki/Moctezuma_II#/media/File:Aztecexpansion.pnghttp://www.moneta-coins.com/library/Hoe%20Money%20of%20the%20Americas%20-%20Martin.pdfhttps://upload.wikimedia.org/wikipedia/commons/5/58/Hernán_Cortés_%28-Museo_del_Prado%29.jpg

https://en.wikipedia.org/wiki/Lu%C3%ADs_de_Velasco#/media/File:LuisdeVelascoI.jpg

https://en.wikipedia.org/wiki/Antonio_de_Mendoza#/media/File:AntonioMendoza.jpg



1819

Tumbaga Gold Finger Bar Ca. 1528. 5 Tax, 6 Fineness & 2 Owner Stamps. 229 x 28 x 8 mm. 310 Grams

CHAPTER THREE
THE MEXICO CITY MINT
FIRST COINAGE OF CARLOS AND JUANA



Charles I of Spain, aged 39, also Charles V Holy Roman Emperor. By Jackob Seisenegger.



Queen Juana, mother of Charles I of Spain

It is true the Aztecs had never seen horses before, and the Spaniards had guns, cannon, iron swords and armor. But smallpox was probably more responsible than military might for defeating the Aztecs. Also, Cortez had studied military strategy and cleverly allied with disgruntled vassals of the Aztecs.

When he sent Cristobal de Olid (see picture right) to subdue the Tarascans, Olid had an army around 174, and Tlaxcalan allies numbering perhaps a thousand. The Tarascans had an army of many thousands. But, knowing what befell Tenochtitlan, they chose not to fight. Cortez then allowed the Tarascans considerable autonomy.



Cristobal de Olid

In 1524 Charles I appointed Cortez Governor, Captain-General and Chief Justice of New Spain. Cortez imposed the encomienda system. This rewarded successful conquistadors with the labor of the conquered (aka slavery).

Cortez sent Olid to conquer Honduras, but like Velazquez and Cortez, Olid declared independence from them. To reign him in, Cortez then sent Francisco de las Casas after him. Cortez himself left from 1524 to 1526 to investigate, leaving chaos in New Spain. Accounts vary, either Las Casas beheaded Olid or Olid's own men rose against him and killed him.

Charles I commissioned an inquiry, sending Luis Ponce de León as judge. Charles spent only 16 of his 40 years reign in Spain, the rest he spent in

Spanish Netherlands and his other inherited Habsburg states like Austria. In 1524 he set up the Council of the Indies in Spain, to administrate the New World, answerable only to him.

Ponce de León arrived in Mexico City in June 1526, a month after Cortez returned. Aged 65, de Léon had fallen ill with a fever when he arrived in Veracruz. After the 12 day's journey to Mexico City, his fever continued. He removed Cortez as governor, then turned over his own governorship of New Spain to his assistant Marcos de Aguilar, also aged. De Léon died four days later. Aguilar also died shortly after. Some say Cortez poisoned both of them.

Arriving with new tax stamps, the king also told him to do a feasibility study on a new mint. It was certainly easier for Spaniards to use plata corriente without paying the quinto real — the King's fifth (the 20% tax on all discovered bullion). But, once a mint arrived, avoiding the quinto real would be harder. However, we know Spaniards still smuggled plenty of bullion to Spain without paying the quinto. Even after they established the mint, ship manifests frequently omitted bullion bars, and hidden compartments in chests. Greasing palms lubricated business!

De Léon's successor, Aguilar, appointed Alonso de Estrada governor, who ultimately exiled Cortez in 1528. King Charles also sent over Nuño de Guzmán as President of the first Royal Audiencia in 1528 to counter Cortez's power. Guzmán was also tasked with setting up a mint. But he morphed into a Mafia-like gangster. He conquered northwest Mexico, and enslaved thousands of Native Americans, shipping them off to the Caribbean. Cortez sailed to Spain in 1530 to complain to the King, who made him Marquis, but did not reappoint him governor.

Cortez's first wife, not of noble birth, died in mysterious circumstances a few months after she arrived in Mexico in 1522. This left him free to marry someone more elevated. He built himself a palace in Cuernavaca (shown opposite), 50 miles south of Mexico City, where he owned many slaves. He married a noble in 1529 and lived in Mexico.

In 1530, the King replaced Guzmán with Sebastián Ramírez de Fuenleal as second President of the Audiencia, the highest authority in New Spain before the Viceroy. He wrote to the King saying he had mentioned several times that they needed a mint in Mexico.

In 1535, the King appointed Antonio de Mendoza, the first Viceroy to govern the new Viceroyalty of New Spain. He had also been treasurer of the Granada Mint, so was familiar with how mints ran. Mendoza took over as President of the Audiencia. In addition, he carried a royal decree, to establish a mint. It allowed silver and vellon (billon) coinage, but the crown withdrew the vellon three years later.



First Viceroy Antonia de Mendoza.

In 1541, Cortez returned to Spain but struggled to be recognized. He complained about Mendoza. The King sent Francisco Tello de Sandoval in 1543 to investigate as an independent prosecutor, with powers to question anyone. His investigation lasted from 1544 to 1547. But back in Spain the Council of the Indies dismissed de Sandoval's charges.

Cortez joined Admiral Andrea Doria's fleet against Algiers. Heavily in debt from financing expeditions, Cortez returned to Spain in 1544, where he tried to get the King to pay his debts. The King ignored him. Cortez died in Spain in 1547 from pleurisy.

Before he died, Cortez had the Pope legitimize his four illegitimate children, including his first son, Martin (from his Indian lover, La Malinche), who inherited the title of Marquis.

In 1531, the Council of the Indies (established in 1524) had ordered the Audiencia to confiscate Cortez's 1521 house in Mexico City, where the foundry was. New Spain Audiencia President Fuenleal wrote in 1532 that it would make a great smelting house and mint. Mendoza selected Cortez's house in Mexico City because he thought it secure, though it needed fortifying. Nesmith shows a drawing of the house very similar to the Cortez Palace in Cuernavaca:



Cortez's Palace in Cuernavaca

There were two mint buildings:

- The casa de fundición, the foundry where they melted silver and set aside the quinto real. Initially they located the fundición in Cortez's house in 1521, then moved it to a building behind the Mexico City Town Hall (Ayuntamiento in Spanish). This was all before the 1536 Mint. They may even have re-assayed Tumbaga bars in Cortez's house.
- The casa de moneda, or mint in Cortez's house — this is where they struck coins. They also used his house for the Viceroy and several others like Tello de Sandoval when he visited. However, in 1545 de Sandoval recommended they not use the house as a mint as the walls were just thin adobe. One night thieves broke in and stole silver. In 1562 the Mint moved to the rear of the Council Chambers beside the casa de fundición. In 1569 it moved to the Casa del Real Palacio or National Palace.

The King handed out Mexico City Mint appointments as sinecures. Each appointment lasted for life. The owner could then sell, lease, or assign the position to a teniente who, early on, had to live in Mexico City. The owner could have been a Spanish Bishop, who never left Spain and rented out the position to someone else in Mexico for a yearly rent.

The 1497 Medina del Campo decree made it illegal for an official's first-degree relative, servant or "familiar" to work with them at any Spanish mint. This prevented security lapses by requiring two or three unrelated people to access valuable or important material.

Kelly (see references) says Charles V declared the Cologne mark of 233.77 grams as standard weight for his mark in a 1524 edict. Later references said this varied from 233.66 to 234.05 grams.

However, Menzel gives a weight of approximately 230 grams for the silver mark. Spain legislated the 8 reales at 27.4680 grams. Thus a mark was 27.4680/8 x 67=230.0445 gm.

Thus, a 234 gram mark is closer to 68 than 67 reales to the mark. Most sources say two reales were used for mint expenses, one for the king and 64 for coins. Some suggest a 68 reales mark, allowing one extra for the coiner or for variation of coin weight. They struck coins "al marco", i.e., variance was allowed within the 67 reales per marc. The other method, "al pezzo", meant they weighed each planchet to ensure precise coin weights.

The list of appointees slots into how they got paid. The Tello de Sandoval investigation showed how they split the two reales (68 maravedis) as follows:

Treasurer (Tesorero)	22 maravedis
Foreman (Capataces)	24 maravedis
Coiners (Acuñadores)	8 maravedis
Die sinker (Tallador)	5 maravedis
Assayer (Ensayador)	1 maravedi
Weigh Master (Balanzia)	1 maravedi
Secretary	1 maravedi
2 Guards (Guardas)	1 maravedi each
Subsistence workers	4 maravedis between them
TOTAL	68 Maravedis (=2 Reales)

The assayer made extra money by charging merchants 68 maravedis for every 10 marks of silver he assayed. The señals (assayer marks) were the marks of the teniente, not the owner of the position. Another enormous advantage for

tenientes: they got free board, no taxes, and a grand opportunity for graft and theft!

To give examples of the massive incomes made, **in 1612 pesos:**

- In 1612 the post of Treasurer cost 260,000 pesos (1612 figures), it paid 55,000 pesos a year. A sailor made two pesos a month! Talk abut income inequality!
- In 1612 the Mexico City die sinker made 11,000 pesos a year.
- In 1612 the Mexico City assayer made 15,000 pesos a year.
- In 1500s the assayer teniente paid 1,800 golden ducats a year for the position (around 18,000 reales or 2,250 pesos).
- In 1545 the Bishop of Lugo owned the Mint Secretary position, he got two-thirds, and the teniente one-third of the fees.
- After the Tello de Sandoval investigation, Mendoza indicted every official for some infraction of the law. Everybody was on the take! Against regulations, Francisco del Rincón, the first assayer, had black slaves working at the mint and a relative of the same name who was a foundry-man.

How many coins did they mint? The coins came in several denominations:

- 1/4 real = cuartillo
- 1/2 real = medio real
- 1 real = sencillo (Spanish for simple)
- 2 reales = real de a dos
- 4 reales = real de a cuatro

In 1535, Mendoza said they minted a quarter as 2 and 4 reales pieces, a half as 1 real pieces, and a quarter as half real pieces.

According to the 1549 Mendoza edict and 1572 Gaona suit for all Carlos and Juana coins:

1/3 as 4R = 100,000,000 R = 25,000,000 coins
1/3 as 2R = 100,000,000 R = 50,000,000 coins
1/3 as ½R &1R = 100,000,000 R = 133 m coins
TOTAL 300,000,000 R = 208,000,000 coins

Nesmith in 1955 knew of only 2,400 coins, i.e., a survival rate of about 1 per 100,000 coins. Today perhaps several thousand coins exist, of which well under a thousand are early series.

The mint justices (alcaldes) and mint judge (merino) got 117 maravedis for every 1,000 marks coined. Nesmith lists the names not only of the assayers and treasurers, but even of the guards, weigh master, coiners, foremen, and scribes. The first die sinker was Antón de Vides in 1536 and 1537.

After buying a VF Fugio Cent for $55 at our local coin club in 1985, I decided to collect colonial American coins, an area few people seemed interested in.

What is more interesting than the first coins of America? Excluding 1616 Sommer Islands coins (not really American), the earliest colonial American coins started in 1640 with the New France fleur-de-lys counterstamped douzains, increasing their value from 12 to 15 deniers.



1640 fleur-de-lys countermark at 10 o'clock on douzain aux croissants of Henri II (1547-1559) #697

But I had forgotten one thing: the very first coins of the Americas! Frank Sedwick began business in 1981. His son, Dan Sedwick, joined him. I think I found out about him in the early 1990s. He used to send me illustrated loose leaf catalogues of his coins. Imagine my excitement when I found coins dating from 1536, the first in the Americas. And nobody seemed interested in collecting them! I vowed to collect one of each denomination and assayer.

Pradeau's 1938 *Numismatic History of Mexico* mentioned Carlos and Juana assayers in alphabetic order, saying he did not know the chronological order. Some L assay marks looked like an I, and at the time people thought he was a different assayer. In addition, Pradeau did not know the identity of any assayer except R for Rincón. He noted one reference to assayer F, but said illustrations showed the F was a P.

In 1952 a large hoard of Carlos and Juana pieces was unearthed in Mexico. Robert Nesmith examined over 1,000 of them. In 1955 he published the first specialist book on Carlos and

Juana coinage, entitled *Coinage of the First Mint at Mexico City* (see references). He established a sequence of the early assayers as RGFP, and of the late assayers as GARSLO.

Richard Ponterio founded Ponterio & Associates, Inc. and Auction House, then joined Stack's Bowers Galleries. Richard's son Kent wrote a paper in 2003, which he gave out at seminars, entitled "*The Coinage of Mexico Struck During the Reign of Charles and Johanna*". This reassigned the chronology of assayers and the tentative dates of issues of these coins. After listening to him, I decided to collect over-assayer marks as well, illustrating this die sequence. In 2009, Kent Ponterio revised his paper with fresh information, published in the Ponterio & Associates 2009 Los Angeles ANA Auction.

Ponterio's new assayer sequence for the early series was R, P, F, G, and for the late series as G, R, A, L, S, L, O. He also mentioned rare coins with no assay marks at all!

These changes and studying over-assayer marks made hunting for coins even more exciting! On top of all this, they were the first coins of the Americas, which few people seemed to know about! Early American Coppers (a club collecting large cents and half cents) have 1,200 members. But this was far more exciting than assembling a date set of US large cents! But there was no Carlos and Juana club!

The next update in research was by Jorge Proctor, who reads archaic Spanish. He can interpret the documents in the Archivo General de Indias (General Archives of the Indies) in Seville, Spain. In 2015 he wrote a 44 page article entitled *The Assayers of the Mint of Mexico During the Sixteenth Century Pillars coinage 1536-1571(?).*

There are at least two paths to the assayer sequence: one is over assayer marks, the other is the historical record in the Archives of the Indies. Proctor added the historical record to bolster numismatic evidence — the actual details of: who had power of attorney for whom; what dates they worked at the mint; what positions they worked in; who leased what to whom, etc. This can get very involved. Such information is for super-specialists only! Much of the information comes from the Tello de Sandoval investigation in 1544-1547.

There are two series of Carlos and Juana:

- Early series also called "without waves" or "sin agua"
- Late series also called "with waves" or "con agua"

Which is the obverse? Technically, the shield side with the legend CAROLVS ET IOHANA and most scholars observe this. NGC and Heritage display the pillars side as the obverse, admittedly the side that attracts more attention.

Sedwick calls these coins pre-cobs as they are hammer struck on round planchets with good detail like other contemporary coins (Lima has a similar series). Cobs are a different beast — poorly struck on irregular lumps.

Early Series Assayers



Early Series without waves example

When Viceroy Mendoza arrived in Veracruz in October 1535 with all necessary punches, Francisco del Rincón was there waiting for him. Mendoza held in his hands the King's recommendation to appoint him to a position at the Mint. Proctor presumes the Mint started in April 1536.

Mendoza filled the offices for the mint and found the men competent with OJT (on the job training). Anton de Vides was the first engraver. But Mendoza soon found the King had made his own appointments. Big problem! He wrote to the King about it! The King had given the assayer position to Pedro de Membrilla, who lived in Spain.

Membrilla made his father administrator . His father was Gutiérre Velazquez (see page 243 about matronymic naming), councilman of the Royal Council of the Indies. He agreed to keep on Francisco del Rincón, Mendoza's appointee. Velazquez, in turn, appointed Francisco de Loaiza, Oidor (Judge) of the Audiencia in Mexico, as his local power of attorney. In 1543, Hernando Gómez de Santillan replaced Loaiza.

The four early assayers in order were:

- **Assayer R** Francisco del Rincón, April 1536 to Spring or Summer 1538
- **Assayer P** Pedro de Espina, spring or summer 1538 to after October 22, 1541
- **Assayer F** Esteban Franco (?), after October 22 to December 1541, or possibly to February 1542.
- **Assayer G** Juan Gutiérrez starts between December 1541 to February 1542, finishes fall of 1548.

Late Series Assayers

In 1542 new punches arrived from Spain. The engraver made the following changes (see pictures opposite):

- waves below the pillars of Hercules
- PLVS inside a panel, changes to PLVSVLTRA without a panel, so-called "bannerless motto"
- G below the reverse label goes to the side of the shield on the obverse. Obverse oMo on each side of label changes to oMo on one side and oGo or G on other side.
- early obverse legend KAROLVS, in late series becomes CHAROLVS then CAROLVS.
- 4 above PLVS on early, changes to below PLVSVLTRA on late.
- fewer devices for stops between words in legends
- more standardization of design between assayers
- no skull-like castles or dog-like lions of early series Aztec punches

While Juan Gutiérrez was assayer, ownership of the office transferred to Francisco del Rincón (who by 1544 was back in Spain). Juan Gutiérrez bought the office in February 1545. He transferred the office to his brother Alonso Gutiérrez in late 1548 for a few months.

Juan sold ownership of the office to Luis Rodriguez. Mexico swore him in, in November 1548. Luis was assayer from 1548 until he died in 1569. However, he rented the position to Pedro de Salcedo (?) in 1553 (?) for several months, and to Bernardo de Oñate in 1561 for several months, then from 1564 (?) on.



Early series top, late series bottom. #882 & 2508
Notice the human skull like castles and dog like lions (top), engraved by Aztec engravers.

The office was up for sale from 1569 to 1571, when Juan de Cueva became the owner. The list of owners of the assayer positions were:

- Pedro de Membrilla 1536-1544
- Francisco del Rincón 1544 sale annulled 1545
- Juan Gutiérrez 1545-1548 (ratified 1549)
- Luis Rodriguez 1548-1569 then vacant 2 yrs
- Juan de Cueva 1571-

Late series assayers, in order, were:

- **Assayer G** Juan Gutiérrez 1542 (?) to fall 1548 (also owned the position).
- **Assayer R** Francisco del Rincón Late 1544 for months until late 1544 or early 1545.
- **Assayer A** Alonso Gutiérrez (brother of Juan) fall 1548 for few months.
- **Assayer L** Luis Rodriguez (also owned position) November 1548 to before Jan. 14th, 1568 (dies 1569).
- **Assayer S** Pedro de Salcedo (?) briefly in 1553.
- **Assayer O** Bernardo de Oñate briefly in 1561, then again 1564 to December 1578.

Thus early assayers are sequential, but late assayers overlap. Late assayer sequence is

GRALSO. But if we include the overlaps, the sequence is GRGALSLOLO

The lists of which assayer worked when, differ between Proctor and Ponterio. Proctor used the Archives of the Indies for his information. Ponterio used the over-assay marks.

Proctor's assayer dates differ from Ponterio:

Assayer	Proctor 2015	Ponterio 2009
	EARLY SERIES	
R	April 1536 to Spring or Summer 1538	1536 to 1538
P	Spring or Summer 1538 to Oct 1541	1538 to 1540 or 1541
F	A month or so late 1541 or early 1542	1540 or 1541?
G	Dec 1541 to Feb 1542	1541 to 1542
	LATE SERIES	
G	Feb 1542 to Fall 1548	1542 to 1543 1544 to 1545
R	Late 1544 for few months	1543 to 1544
A	Fall 1548 few months	1546 or 1547?
L	Nov 1548 to before Jan 14, 1568	154? to 1552 or 3 1553 to 155?
S	Briefly in 1553	ca. 1553
O	Briefly in 1561 Again 1564-1578 Stopped C&J coins 1571	155? to 1557

Proctor's identities for assayers also differ:

Assayer	Proctor	Ponterio
P	Pedro de Espina	Pedro de Espina or Pedro de Membrilla
F	Esteban Franco	Franco, or Francisco de Loaiza
A	Alsonso Gutiérrez	Alonso del Villaseca
L	Luis Rodriguez	Rodriguez unlikely, not sure
S	Pedro de Salcedo	Gomez de Santillan possibly
O	Bernardo de Oñate	Unsure

Ponterio said that as Philip II ascended the throne in 1556 it is unlikely that Carlos and Juana coins continued more than a year or two after. He also notes Lima struck similar coins with Philip II's name on (1568-1571).

Proctor said Oñate did not start until possibly 1561 briefly, then started again in 1564 (8 years after Philip came to the throne). Oñate also assayed the first cobs of Philip II. Sedwick in his *Practical Book of Cobs* says Oñate finished the Carlos and Juana pre-cobs and started the Philip II cobs in ?1571.

Over 20 years ago, I developed the chart on the next page, periodically updated, but clearly wrong and outdated. My idea was to collect one of each assayer and denomination and any available over-assay marks.

Ways of collecting Carlos and Juana

- one early series coin and one late series coin, 4 reales easiest (2 coins).
- denomination set of 1/2, 1, 2 and 4 reales (4 coins).
- assayer set of RPFG, and GRASLO, however, F and S are tough coins, easiest in 4 reales. (10 coins).
- denomination and assayer set (20 coins).
- over-assayer marks documenting emission sequence of assayers.
- You can add rarities like three reales, upside down G, I, and absent mintmark coins.
- Extended denomination and assayer set
- Copper set — early 4 maravedis, late 4 maravedis.

The order of rarity for early series is PRGF, and later series is OLGARS, the last being the rarest.

Copper coins of Carlos and Juana

From around 1525, encomenderos became concerned that natives were paying them in cacao beans, and that their fortunes would not be transferrable to Spain. They started agitating for coinage. When Mendoza arrived with Queen Isabella's 1535 royal edict, it allowed him to coin copper if he felt it beneficial.

In 1536 Mendoza called in all tepuzque, some of which had become quite debased with copper. Some say from 1536 to 1538 the Mint produced early 4 maravedis copper coins. But the natives threw them into Lake Texcoco and into gutters.

CHARLES AND JOANNA COINAGE

(Spanish call them Carlos y Juana) **4/24/2018**

Juana 1504-16, Carlos 1516-56

SURFACE		Obverse	Carlos et Johana
mint luster	**ml**	**Reverse**	Pillars
smooth	**s**	**Nesmith#**	**-** unassigned (or unass)
micro-porous=velvetty	**mic**		**?** unknown to Nesmith
light porosity	**lp**		**v** variant
mod porosity (can read)	**mp**		**leg 10/a** legend catalogued as 10 and a in Nesmith
corroded=severe porosity can't read	**c**		

FLAN ROUNDNESS

Broad Flan >80% planchet show around outer beads	**bf**
Full Round >80% outer beads show	**fr**
Round >80% of tops of inscriptions/crown show	**r**
Roundish <80% of tops of inscriptions show	**ish**
Clipped >10% of legend letters are clipped off c20=20%cut off.	**c 20**

3 dot type comes with waves, without waves and with 3 extra dots aound R (uniq

EARLY SERIES

3 reales types are 3 dots, 3 bars, and Latin III — Got 3 bars #1052 sea salvage

	Assayer	1/4 real	1/2 real	1 real	2 reales	4 reales	Evidence	OverAssayer
1536 - 8	**R Fransisco del Rincon**	3 specimens only private one sold for	#1117 Gothic iffy	#958 nice Gothic	#757 yuk rev, nice obv Gothic	#709 Latin nice	Early R & M Gothic letters, later R (and occasionally M) Latin letters	Gothic R, Roman R
1538 - 1541	**P Pedro de Espina**	3 specimens known	#1618 nice	#612 nice	#708 P reverse nice	#668 MP Rev iffy #1580 P/R obv yuk #1855 PM rev nice #2034 MP rev nice	Die link evidence	P/R got #1580
Brief 1541 or 2	**F Esteban Franco**	1 specimen known	Got F/P #2509 F12	#2757 Ex Santo Domingo	#2678 AU full legends nice	?#650 obv corroded, rev nice #881	F/P	F/P got #2509
1541 - 2	**Juan Gutiérrez**	no specimens known	#930 nice	#725 nice M/P/?F #2510 M/F/P	#752 nice	#882 very nice M/P or M/F	Die link M over F/P and G on Obv	M/F/P got #2510

LATE SERIES

	Assayer	1/4 real	1/2 real	1 real	2 reales	4 reales	Evidence	
1542 - 4	**G Juan Gutiérrez**	2- 3 known only private hands sold $24K 2018	#750 nice	#680 nice #1053 Assayerless nice	#716 nice #863 UpDown G nice	#670 nice	New punches from Spain 1542. Carlos spelled with C not K. No panels for PLVS, 4 below not above panel, with waves, finer engraving, small planchets. Viceregal edict to use Mo and omit circles above and below M or G early on.	Upside down G #863, Absent G #1053
late 1544 few months	**R Fransisco del Rincon**			#720 iffy #1068 R/G iffy #2574NGC45 nice	#803 iffy Gothic R	#2176 yukky #2573 NGC 50 nice	Rincon bought teniente from Pedro de la Membrilla understating value. Law suit documented, but probably only minted briefly thus only 18 of 2000 Nesmith coins were R. Gothic and Latin R known.	R/G got #1068 Gothic R #803
1544 - 1548	**G Juan Gutierez**		–	–	–	#1430 G/R yukky #2508 G finest I have seen.	Gutierrez resumed teniente after successful suit. 1545 Tello de Sandoval Mint Investigation indicted all mint workers. Late G beautifully made complete round planchets well struck full legends. G over R known.	G/R #1430 G/A got
1548 few months	**A Alonso Gutiérrez**		#1729 nice	#748 nice #1758 nice	#749 A/G nice	#711 ?A/M nice	A over G known A was trustee for Gutierrez in 1544. Used same dies as G and re-punched A. 16 of 2400 Nesmith coins were A but some more from Padre Island wreck.	A/G #749 ?A/M #711
1548 - 1553	**L Luis Rodriguez**		#712 nice	#671T/Liffy #914L/Onice #1730 Iiffy #2070 nice	#717 nice #1429L/ O iffy	#718 nice #778(L/O)iffy #1563 L/Riffy	Padre Island shipwreck 1553(?4) has mainly L and S. L over A known. Early L pre 1553 good style and round planchets with mintmark M found in Padre Island wreck. Late L after 1553 small irregular with Mo not found on this wreck.	T/L #617 L/A got L/R #1563
Briefly in 1553	**S Pedro de Salcedo?**	1 known thus non collectible		rare iffy #724 #2758 nice	#2507 VF 30	rare #911 yukky	Early coins M mintmark. Late Mo mintmark. Probably very brief tenure thus only 12 of 2400 Nesmith coins were S	
1553 - 1568	**L Luis Rodriguez**		–	–	–	#2759 finest known of two L/S	Late small irregular with Mo not on Padre Island shipwreck. L over O and O over Lare very common so probably took on O as an apprentice rather than switching back and forth, but after 1554 because not in Padre Island shipwreck of 1554. Known L over S. Huge quantities of late L known.	L/O #1429 #778 #914 L/S #2759
1561brief Again 1564-1571	**O Bernardo de Oñate**		#712 nice #719 nice	#657nice #1022nice #1023O/L nice	#751 O/L nice	#521 iffy #2242 nice	Padre Island Shipwreck 1554 has no O so O must have joined L after 1554. All Mo poor quality. Carlos abdicated throne to Phillip II in 1556. Ponterio says unlikely that coinage continued past 1557. Was last assayer Proctor says till 1571. Was also 1st assayer of Phillip II cobs.	O/L got #751 #1023

Old order RGFP GARSLO Rarity order PRGF OLGARS (commonest to rarest)

New order RPFG GRGALSLOLO

COPPER	**Mexico Early**	4 Maravedi	#715 yukky		
	Mexico Late	2 maravedi			
		4 Maravedi	#672 #1274 better		
	SantoDomingo	4 Maravedi	#631 nice		
SANTO	**DOMINGO**	2Real	#1642nice	4 Reales	#2177nice
LIMA	**PRE COBS**	1/2 R	#1464 iffy	1R	#1866OK #2013 yukky
		2 Reales	#1641 yukky	2R	#1817 yukky 4R#1366 iffy

Plata Corriente #1535

Plata Corriente with tax stamp #2856

Oro Corriente #1688 Espadarte wreck

Sedwick Grading	Design Remaining
G	<10%
VG	25%
F	50%
VF	75%
EF	90%
AU	95%+luster
BU	100%+luster

Golden Fleece Wreck Ca 1550

San Miguel 1551 off Santo Domingo Wreck

Padre Island or Spanish Fleet 1554 Shipwrecks include San Esteban, Espiritu Santo, Santa Maria de Yciar, & San Andres

Obverse is technically the monarch's side i.e. side which say Carlos et Iohana, or has their shield (no heads yet)

HA displays pillars as obv, Sedwick shows shield as obv.

Tenochtitlan before Spanish drained and filled Lake Texcoco.

Lake Texcoco surrounded the Island of Tenochtitlan. The Spanish drained the lake, whose bed now houses Mexico City. According to the Spanish Franciscan friar Juan de Torquemada, in 1544, natives started collecting and dumping massive quantities of 2 and 4 maravedis and low-denomination silver coins in Lake Texcoco. He estimated they dumped 13 to 27 million coins. Aztecs also melted cuartillos for jewelry despite the crown imposing fines.

Some have said natives threw away the coins as they thought they were a sign of poverty. More likely they wanted to protect their own indigenous currency, i.e., cacao and hoe money. Native Americans only usually had access to low denominations.

The early series 4 maravedis (shown on the right) showed a lion and castle either side of the letter K and I. Each was taller than the letters. Two maravedis pieces are extremely rare.



Early Series 4 Maravedis 1536-1538



715

Carlos & Juana Early Series Copper 4 Maravedis (1536-8). 2 Known to Nesmith; 28mm, 4.49 Grams F



1274

Carlos & Juana Late Series Copper 4 Maravedis Undated (1542 on). Nes-3; 32mm, 5.81 Grams VF+

In 1542 Viceroy Mendoza authorized more copper because most transactions were less than a half real and cuartillos were too small and got lost easily. The late series of 2 and 4 maravedis show a castle and lion either side of the letter K and I. Each is shorter than the letter K or I.



Late Series 4 maravedis 1542-1550.

Nesmith only located 67 copper pieces, and he could only use 38 to recognize the obverse and reverse. I show the early and late 4 Maravedis pieces on the previous two pages.

Nesmith said the Santo Domingo type was earlier and circulated in Mexico. This is shown opposite but is probably 1542 to 1556, well after the Mexico City Mint opened.

Mendoza had not learnt the lesson that proud Indians would throw them all away. No assay mark was needed for copper, but they used the Mo mintmark.

Unskilled Tlaxcala native wages were then 2-4 reales a month; skilled wages were 4-8 reales a month. An interpreter got one real a day and a constable 3 reales a day around 1550. Exchange rates varied from 40 to 200 cacao beans per real.

Between 1545 and 1550 copper mintage stopped because Indians still disliked them and threw them into the lake. Equivalent currency for natives was 1 tomin, equivalent to 1 real, valued at 1 turkey, or 1 fanega of maize. One cacao bean was worth 20 small tomatoes and was a common form of currency in pre-Columbian central America. Natives used cotton blankets (cuachtli) as high denomination currency.

Opposite is a Santo Domingo 4 maravedis copper piece of 1542-1556.

I bid $1,750 on a $700-$1,000 estimate for the early two maravedis Carlos and Juana Mexico copper in 2020. It sold for $10,700!

I have not collected cuartillos as they are five figure coins. This cuartillo, measuring only 15 mm, sold for $22,800!



Early Series Assayer P Cuartillo. Courtesy Heritage Auctions HA.com

Rincón Early Silver

These include 1/4, 1/2, 1, 2, 3, 4, and 8 reales coins. We know of three 8 reales coins, all from the Golden Fleece wreck. These sell for hundreds of thousands of dollars. The planchets were too big and difficult to strike with a hammer. After only a few strikings, they abandoned the idea.

Legislation demanded an obverse with a shield displaying a castle, lion and pomegranate, and a reverse with the crowned two pillars of Hercules with PLVS VLTRA. This came from an ancient fable. After Hercules killed his wife and children, King Eurystheus sentenced him to penance involving 12 labors. Hercules set two pillars on the outlet of the Mediterranean to the Atlantic Ocean. This memorialized his labor of seizing the cattle belonging to the three-bodied Geryon. One pillar he erected was the Rock of Gibraltar, the other was one of two mountain peaks Jebel Moussa, or Mount Hacho in Morocco.

The Spanish used the old phrase, “ne plus ultra,” which meant nothing more beyond. By removing the “ne," “plus ultra” meant more beyond. Thus the pillars of Hercules with plus ultra meant everything beyond the outlet to the Mediterranean belonged to Spain.



631

Carlos & Juana. Santo Domingo 4 Maravedis 1542-1556 Francisco Rodriguez Assayer. KM-47 25mm, 2.87 Grams F

The medio real (half), like the cuartillo (quarter), had insufficient room for devices, so just had K on the obverse and I on the reverse (for Karolus and Iohana). Obverse legends varied considerably with what would fit, or what letters the engraver ran out of. The full legend is KAROLVS ET IOHANA (D G) REGES HISPANIARVM ET INDIARVM, meaning Charles and Joanna (by the Grace of God) Monarchs of Spains and the Indies. The very first punches had gothic lettering, later punches were Roman lettering, perhaps because, with less serifs, they lasted longer. Often the two types of punches were mixed.

Punctuation between the words used several devices like a colon, a cross, or a punch that looked like a blurred X. They also used these as fillers between letters. Nesmith shows how the engraver used a dozen or so punches to create all the devices (see page 59), except for the pillars and labels with PLVS.

Rincón's early dies used a gothic R (shown doubled opposite). His later dies showed a Roman P with a short stem punched below the P to make it into an R. Presumably the gothic R punch broke and they had no Roman R to replace it (see overleaf).

Assayer R and early P dies used a rounded panel to enclose PLVS, PLVSVL and variations. Late Roman R dies had rhomboid labels (including the 8 reales).

Three Reales Coins

Three real coins started under Rincón, but they abandoned them. It is said they mistook them for 2 reales coins. However, they were often larger in diameter even than 4 reales coins! Some have suggested they simplified splitting up the 67 reales in a mark, taking off the 3 reales for the mint and the king's seigniorage. They struck three reales in 1536 and 1537. In November 1537 a decree authorized the Mint to stop minting 3 reales and start minting 4 reales coins.

All 3 reales used Gothic Rs. 3 reales types are:

- with waves, 3 dots, Gothic Ms, very rare
- no waves, 3 dots, Gothic Ms
- no waves 3 dots, Latin Ms
- no waves, 3 bars (called Latin III), Gothic Ms.

Sequence of early assayer coins.

Nesmith said the sequence was RGFP. Ponterio said RPFG. In 1545 Juan Gutiérrez (assayer G) in Tello de Sandoval's investigation said he had been at the mint for 6 years, i.e., since 1539. But that was as a smelter. He started assaying for the mint in late 1541 or early 1542.

Pedro de Espina (assayer P) was assayer of the Mexico City foundry in 1531 before the Mint started. He has more dies than any other early series assayer suggesting he served longer than others.

Assayer F is rare. All his dies were reused older dies with his assayer mark. Thus he likely had a short tenure. Scholars initially thought F stood for Francisco de Loaiza, the Oidor (judge) of the Audiencia. He held the power of attorney for Membrilla's ownership of the office of the assayer. Others feel it unlikely that he exercised an assayer position as he had responsibilities as a judge. Proctor says F was Esteban Franco. Sandoval brought him to the mint in 1545 as an assayer. But Sandoval found him guilty of improprieties, forcing him to pay a fine and banned him from working as assayer or smelter for two years anywhere in the Indies.

Mexico City Audiencia judge, Hernando Gómez de Santillan, took over as Membrilla's power of attorney from Loaiza. In April 1544 Gutiérrez bought the position for 1500 pesos in mined gold (equivalent to 1,650 silver pesos), using Alonso de Villaseca as his trustee.

Also in 1544 Francisco del Rincón, who moved back to Spain, bought Membrilla's office for 550 ducats (equivalent to 1,326 silver pesos). Double dealing! Guitiérez, not Rincón, ended up owning the position — more about this later.

Francisco del Rincón assayer early series (April 1536 to spring or summer 1538)

I show ahead a Gothic R and Roman R four real coin, and three, two, one, and half reales Rincón coins. All show non-Aztec style castles and lions.

The coins illustrate several points:

- KAROLVS is spelled with K.
- IOhANA is spelled with I and small h.
- HISPANIE spelled hISPANIE (i.e., Gothic H)
- Gothic R or Roman R for Rincón.



2642

Carlos & Juana, Rincon Assayer, Gothic R 4 Reales. 1537-8. 32 mm, 13.4 Grams NGC XF 40



709

Carlos & Juana Early Series Roman R (Rincon) 4 Reales. Nes-6c; 31.5mm, 12.42 Grams EF



1052

Carlos & Juana Rincon Assayer, 3 Reales Bar Type. Nes-5d; 31mm, 7.85 Grams VF



757

Carlos & Juana 2 Reales Early Series Gothic R. Nes-4 Var; 5.26 Grams Obverse Corrosion / Rev EF



958

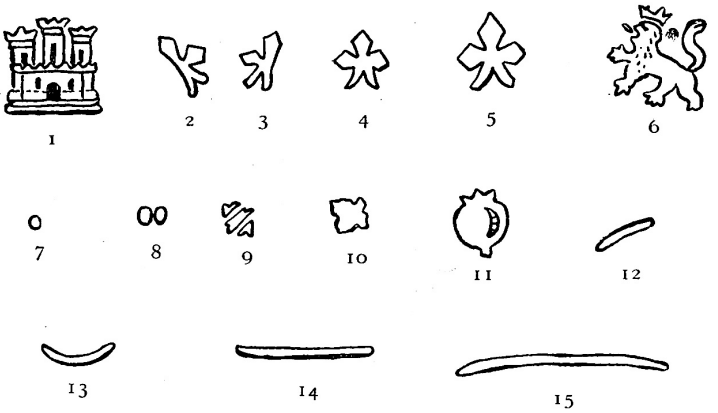
Carlos & Juana Early Series I Real Gothic R. Nes-3b; 23mm, 3,27 Grams EF



1117

Carlos & Juana Early Series Gothic R. Half Real. Nes-2; 21mm, 1.42 Grams F+

- oMo either side of shield, using gothic Ms.
- These all show the panel for PLVSVL with curved ends, but also come with right-leaning rhomboid ends.
- PLVSVL, or PLVS in the panel (also called a banner). They also come PLVSVLT, PLVSVT, and LVSV.
- The three reales denominations come as three dots, or three bars which look like a giant M to me. The first large denomination was 3, not 4 reales. The 4 reales came after the 3. The large M could have been for Mexico, or for three, and later changed to three dots. Why did they make 3 not 4 reales? Perhaps coiners worried about the strikability of large coins and felt 3 not 4 would be easier to strike. Authors have said people mistook the 3 reales for 2 reales too much, so they switched to 4 reales. But many 3 reales were larger flan coins than the 4 reales. Four reales averaged 32 mm, 3 reales were 31 mm, and 2 reales were 27 mm. More easy to confuse with 4 than 2! The Ines de Soto wreck listed 53 three reales coins.
- Three reales with three dots come with waves and without waves.
- No waves below pillars in all other early coins
- Mixture of Gothic and Roman letters. Even the assayer mark comes as Gothic and Roman. The second shown 4 reales coin has what looks like a P with a tail added to make an R, suggesting the engraver's letter punches were breaking and they had no replacements. It is said gothic punches failed quicker because they had more serifs.
- Denomination numbering was 4 for 4 reales, two dots for two, no dots for 1, and a different design for the half and quarter reales. The half had KJ instead of the shield on the obverse; the quarter had K on the obverse and I on the reverse, being only 15 mm they had insufficient room for a shield!
- Spanish style castles and lions — more about this later. Lions had protruding tongues.
- The reverse legend was HISPANIE ET INDIARVM R(EX). If they ran out of room, they just stopped in the middle of the word! They used colons and punch 9 (see top right) which is usually seen worn and looks like punch 10 (see top right). Sometimes they inserted a colon or punch 9 between letters in a word, presumably so the engraver thought the word would finish in the right spot! You can see this on the Roman R 4 reales reverse with HIS:PANIE: on the next page and on the 2 reales reverse with INDIARV (punch 9) M on page 56.



Nesmith's early series punches taken from Nesmith's 1955 monograph (see references). Courtesy of the American Numismatic Society.

Nesmith said with these punches an engraver could create the entire coin except for the pillars and the KJ of the half reales. Punch 7 is round and called a rondule. They used it for the two reales denomination, for the colons between letters, and decoration of the crown. Punch 8 has two pellets which are oval not round. When creating an inner and outer ring of pellets, you could seat one side of the punch on the previous pellet and create a well lined-up circle of equally spaced pellets. Notice one pellet is slightly smaller, so seating the double pellet punch would not create double strikes.

- Backward Ns were common. They used inverted Vs for As.
- Coiners could often strike half and one real coins with a single hammer blow, but the 2, 3, and 4 reales coins often needed multiple blows to strike up the image. This is the reason for the double R assayer mark on the first coin. It is likely that the men who wielded the hammers were not Spaniards, but enslaved blacks or native Americans.
- Apart from the half real, all reverses show a scribed circle, using a compass scribe, which often leaves a centering dot, seen best between the L and V of PLVS on the reverse of the 1 real coin. This enabled the engraver to hammer a circle of pellets around the inner scribed line. Only the 4 reales Gothic R shows the scribed inner line on the obverse.
- The outer concentric circle of pellets is very regularly placed, creating a constant width ring for the lettering. Whether they used a faint circle or some spacing device, I do not know. Perhaps it took time for them to



1580

Carlos & Juana Early Series Pedro de Espina P/R 4 Reales. Nes-6d var; 32mm, 12.50 Grams F corrosion

realize they could hammer the pellets over the scribed line to create a more aesthetically pleasing appearance.

Eight reales coins: There are three known 8 reales coins, an experiment for which there was legislation in November 1537. All three coins came from the Golden Fleece wreck, and sold for around $500,000, as the first silver dollar of the Americas — essentially non-collectable. The mintmarks are gothic Ms and the assayer mark is a Latin R. Interestingly, the denomination is a cross potent, said to signify 8 reales because of the 8 points at the tip of the cross serifs (really)?





Above, the author holding an 8 reales Carlos and Juana in April 2018. Below is an 8 reales courtesy of Heritage Auctions, HA.com

Pedro de Espina Assayer early series coins (Spring or summer 1538 to October 1541)

Nesmith thought assayer G followed R because he placed his G also on the reverse. But modern scholarship says P followed R. This first came to light with Kent Ponterio seeing P over R assay marks. Proctor later confirmed this with his studies in the Archives of the Indies. This is part of the fun of collecting the over assayer marks of the entire series!



P over R assayer mark. # 1580

The coin seen opposite shows the same layout as the Rincón early assayer coins with the K for KAROLVS, and oMo each side of the shield. The panel is a right-leaning rhomboid also seen on Rincón 4 reales. It is a Nesmith Rincón 6d with a P overstruck on the Latin R. Nesmith did not know of any P assayer with P on the reverse. Subsequent P coins show the assayer mark on the obverse.

Four reales with PM not MP are very rare. Nesmith listed oPo-oMo half, 1 and 2 reales as Types 18, 19 and 20. He knew no examples of the 4 reales oPo-oMo, but listed it as Type 21, in case one showed up one day! (Actually he wrote oMo-oPo by mistake, but meant oPo-oMo!) He listed and knew of many oMo-oPo half, 1, 2 & 4 reales as Types 23, 24, 25 and 26.

Cori Downing, who catalogs for Daniel Frank Sedwick Treasure Auctions, has cataloged 193 oMo-oPos, but only 10 oPo-oMo coins as of 2016. I show an oPo-oMo 4 reales overleaf and an oMo-oPo 4 reales on page 64.



1855

Carlos & Juana Early Series, Pedro de Espina, oPo-oMo 4 Reales. Nes-Unknown; 31mm, 12.92 Grams VF

Clyde Hubbard wrote a 15-page addendum to Nesmith's work, showing coins and supplementary type numbers in 1976. He knew of only 7 oMo-oPo 4 reales, but **no** oPo-oMo 4 reales. Thus, 4 reales oPo-oMo were unknown to Nesmith and Hubbard. But today, one in 20 have the oPo-oMo not oMo-oPo sequence.

Nesmith shows the new Roman letter punches and device punches used for P, F and G coins, which presumably arrived from Spain around 1538. He shows three different castles and three different lions. He suggested skilled Aztec workers cut these punches in Mexico, as they were not as delicate as the Spanish style Rincón castle and lion punches.

He said the castles looked more like Aztec ideographs than Spanish, and the lions looked like the artist was unfamiliar with the animal. The castles look like human skulls, with gaping eye and nose sockets.

However, this is supposition and we have no proof that Aztecs made the punches locally. Also, presumably the Spanish engravers still engraved the dies.

A recent JEAN article (see references) by Philip Ellsworth offers further analysis of the Aztec punches. He points out that the "Aztec punches" depicted lions without crowns, and had thin hind quarters. I also see thin forelegs, cleft feet and tails, and a ruffle like mane in front of the breast bone. Ellsworth also says that the Aztec's religious practice of human sacrifice led to them using skulls in religion and art.

The Spanish did not use Aztec punches for late series coins.

Nesmith also showed other devices used as stops — small rings called annulets, a stop inside an O called an annulet with pellet, a ◊ called a lozenge, quatrefoils and a cross potent (see opposite).

Points to notice on P assayer coins include:

- Right leaning and left leaning rhomboid panel varieties. All the following coins are left leaning rhomboids except the half real which is right leaning.
- They abandoned curved ended panels.
- They used annulets and pellets in annulets in the designs (see opposite), not used in Rincón's. They used these particularly inside the banner and at the angles of the rhomboids.
- oMo and oPo use pellets in annulets or pellets alone.
- Punctuation uses colons made of two annulets rather than two pellets, or two annulets with pellets.
- Coiners are beginning to strike a little off center.
- The 4 reales overleaf shows a quatrefoil used as punctuation between words on the obverse and reverse. The 2 reales overleaf shows crosses before the legend, something that was almost par for the course for medieval coins. This coin also uses lozenges for punctuation.
- KAROLVS is still spelled with a K, but IOhANA has become IOHANA — a Latin H has replaced the Gothic h.
- The reverse legend hISPANIE has changed to HISPANIARVM.
- The half real uses a hollowed out lozenge for punctuation, called a mascle.
- There are no scribed circles, but a centering mark is seen typically on the upper line of the panel. The engraver is now hammering in the circle of pellets over the scribe mark instead of outside the scribed circle (shown on page 65).
- About 90% have Aztec style castles and lions.

Punctuations marks

quatrefoil

pellet also called rondule

O annulet

◊ **mascle**

annulet with pellet or annulet with rondule

cross potent

♦ **lozenge**

In the pages ahead are more P assayer coins.



2033

Carlos & Juana Early Series Pedro de Espina oMo-oPo 4 Reales. Nes-26-c; 31mm, 13.52 Grams VF+



708

Carlos & Juana Early Series Pedro de Espina oMo-oPo 2 Reales. Nes-25b; 27mm, 6.61 Grams VF+



612

Carlos & Juana Early Series Pedro de Espina oMo-oPo 1 Real. Nes-24d; 25mm, 3.33 Grams VF



1618

Carlos & Juana Early Series Pedro de Espina oMo-oPo 1/2 Real. Nes-23a; 19mm, 1.58 Grams VF

Aztec and Spanish punches.





Spanish style shield top, Aztec bottom.

	Spanish	Aztec
Turrets	Maybe windows	No windows
Parapet	Crenellated	Simple
Doors/Windows	Small	Skull like
Castle width	~2 x height	~ 1 1/2 x height
Base	Thin	Tiered with columns

Chart of castle differences.

Assayer	Castle and Lion style Spanish	Castle and Lion style Aztec
R	66	0
P	15	108
F	0	7
G	0	28

Ellsworth Early series 4 reales, # of coins.

The chart indicates all R assayer coins showed Spanish style castles and lions. 88% of P assayer and all F and G assayers showed Aztec style castles and lions. Presumably Aztecs engraved the punches not the entire coin die.

Esteban Franco Early Series Late 1541 or early 1542 very brief

If we could find an F over P assayer mark this would suggest that assayer F followed P. Indeed, these over assay marks are known on 1/2, 1 and 4 reales coins. I show one below.



F over P assay mark on 1/2 real. #2678

F is the rarest assayer mark of all. The rarity order is given by the mnemonic PRGF and OLGARS (commonest to rarest for both series).

The 4, 2, 1, and 1/2 real F coins follow assayer P. Points of note for F assayer coins are:

- All have left leaning rhomboid panels.
- They use lozenges and double rondules for stops between words.



881

Carlos & Juana Early Series Esteban Franco oMo-oFo 4 Reales. Nes-16; 32mm, 11.45 Grams VF corrosion



2678

Carlos & Juana Early Series Esteban Franco oMo-oF/Po 2 Reales. Nes-15; 27mm, 6.65 Grams AU



2757

Carlos & Juana Early Series Esteban Franco oMo-oFo 1 Real. Nes-14; 23mm, ? Weight NGC EF 45



2509

Carlos & Juana Early Series Esteban Franco oMo-oF/Po 1/2 Real. Nes-13; 19mm, 1.32 Grams VG







882

Carlos & Juana Early Series Gutiérrez Assayer, oMo-oM/Po 4 Reales. Nes-11; 31mm, 13.19 Grams EF

- All legends start and finish with a cross except the 1/2 and 1 real obverses.
- Nesmith knew of only: 2 half reales, 4 one reales, 2 two reales and 1 four reales F coins (12 coins total). In 2012, Cori Downing knew of only 26 F assayer coins total in collections and auctions. She said the majority were from the Golden Fleece wreck, which sunk ca 1550, and one from the Ines de Soto wreck, which sunk in ca. 1557. The 4 reales F shown on page 69 has about 2 grams corroded off from 9 to 10 o'clock.
- All known coins have the F on the right.
- The 1/2 and 1 real spell IOHANA as IOANA.
- As 1/2, 1, and 4 reales are known with F over P assay marks, many coins are reworked P coins. The 2 reales F shown is struck over a 2 reales Nesmith 25b P assayer. The 1/2 real F shown is struck over a Nesmith 23 1/2 real P.
- Nesmith knew of no cuartillos, neither did Cori Downing in 2012. However, Kent Ponterio in 2012 said they exist. Whether he meant existed, or exist, I do not know!
- Aztec style castles and lions.

Juan Gutiérrez Early Series Coins Starts December 1541 to February 1542. Assayer for late series to 1548.

G assayer obverses reverted to oMo each side of the shield. Transitional coins show the mintmark M over the assayer mark P, or M over F over P.

The following coin is said to be M/F/P. But the F assayer mark did not occur to the left of the shield so this is an M over P.



M over P to left of shield 1 Real G assayer. #2510

Here is an M over F or M over F over P to the right.



M over F on right on 1/2 real G assayer #930

Here is an M over M or M over P on a 1 real G assayer coin.



M over M or P to left of shield on 1 real G assayer #725

An interesting aside about the derivation of PLVS VLTRA: King Carlos I, who spent most of his reign in his Burgundian court in Flanders and the Spanish Netherlands, had a French speaking physician who used the words "Plus Oultre" for the cry of the pilgrims going to the Holy Land. It was French for "more beyond," meaning there was nothing beyond the Pillars of Hercules to the West. But there was more beyond to the East — the Holy Land. But the Spanish Crown realized the Spanish people would oppose a French motto, so changed it to sound Latin PLVS VLTRA. The correct Latin would have been PLVS VLTERIVS.

Characteristics of the G early series (shown on pages 73, 75, 76 and 77) are:

- After fixing the obverse to show oMo both sides of the shield (by overstriking the P or F/P), they added assayer mark G to the reverse between the base of the pillars. M/F or M/F/P occur in 1/2, 1, and 4 reales coins.



752

Carlos & Juana Early Series Gutiérrez Assayer, oMo-oMo 2 Reales. Nes-10; 27mm, 6.75 Grams EF



725

Carlos & Juana Early Series Gutiérrez Assayer, oM/?Fo-oMo 1 Real. Nes-9B; 23mm, 3.10 Grams VF



930

Carlos & Juana Early Series Gutiérrez Assayer, oM/?F/Po-oMo 1/2 Real. Nes-8a; 19.5mm, 1.48 Grams F

- Some authorities say both early and late copper coinage started in 1542. Others say the early series were 1536-1538.
- The illustrated 4 reales coin on page 73 is Nesmith 11. Cori Downing says this is the commonest of any variety of early series coin with about 12 specimens known.
- I can certainly see why Nesmith thought G followed R as they both had the same style of reverse assayer mark between the two pillars. However, modern scholarship, perhaps pushed by difficult-to-see US federal series overdates have paved the way. I have to say federal overdates sometimes stretch the mind and eyesight!
- Left leaning rhomboid panels
- Panels contain PLVS or PLV
- Most G coins start the legends with a cross potent or occasionally a quatrefoil (which could be construed as a cross).
- I have only seen lozenges and quatrefoils as stops.
- Only Aztec style castles and lions

The duration of the assayer jobs of the first series ties in with the rarity of their coins:

- P assayer 3 years commonest
- R assayer 2 year next commonest
- G assayer 3 months rarer
- F assayer rarest ?1 month or so.

Although there are many original coins, many are from ground burials and wrecks, so show some degree of corrosion.

A word about cuartillos: Native Americans threw an estimated 13 to 27 million cuartillos, half reales and copper coins into Lake Texcoco. Half reales are rare, but cuartillos are particularly rare. In the early series there are three R, three P, and one F/P specimen known — thus non-collectable. In the late series, there are 3 G and one S known — also essentially non-collectable.

I have taken the phrase "non-collectable" from the Early American Coppers specialists who use NC after a variety of which say only 1-3 are known. This reflects that ordinary mortals should not spend their lives waiting for one to appear at auction! If so few are known, the coin is "non-collectable".

Thus, numismatists figured out the dating of these coins from:

- Nesmith
- Ponterio
- Proctor
- Tello de Sandoval investigation
- Archives of the Indies
- Shipwrecks (Golden Fleece, Ines de Soto, Padre Island)

The next chapter will present the late series Carlos and Juana coins.

Interestingly, the coins of Carlos and Juana circulated until 1846 in Costa Rica, who counterstamped the coins.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks*. EN RADA publications, West Palm Beach, FL 2003.

Downing, C.S., *The Charles and Joanna Coinage of Mexico City 1536-1571: A Research Study on the Early Series and Introduction to the Late Series.* Daniel Frank Sedwick Treasure auction #12. October 25, 2012. pp179-186

Ellsworth, P.C., Aztec *Influence in Early Spanish Colonial Four-Reales Coinage, 1538-1542.* Journal of Early American Numismatics. Vol 3, Number 1,. June 2020. ANS, NY, NY.

Garcia-Barneche, A., *The Tumbaga Saga.* 2nd Edition. Daniel Frank Sedwick Publishing, Winter Park, FL 2018.

Kelly, P., *The Universal Cambist and Commercial Instructor: Being a full and accurate treatise on the exchanges, coins, weights, and measures, of all trading nations and their colonies*. Second Edition, with supplements. London: Longman and Co., *1835*.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572*. ANS. NY 1955.

Opitz, C.J., An *Ethnographic Study of Traditional Money*. First Impressions Printing. 2001.

Ponterio, K.M., *The Coinages of Mexico Struck During the Reign of Charles and Johanna*. Privately published 2003, revised June 2009, in Ponterio & Associates, Inc. The 2009 Los Angeles ANA Auction.

Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian Epoch to 1823.* Self-Published. Los Angeles, CA 1938.

Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.

Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?*).Numismatics International bulletinVolume 50. Nos. 1/2. January/February 2015. Dallas, Texas.

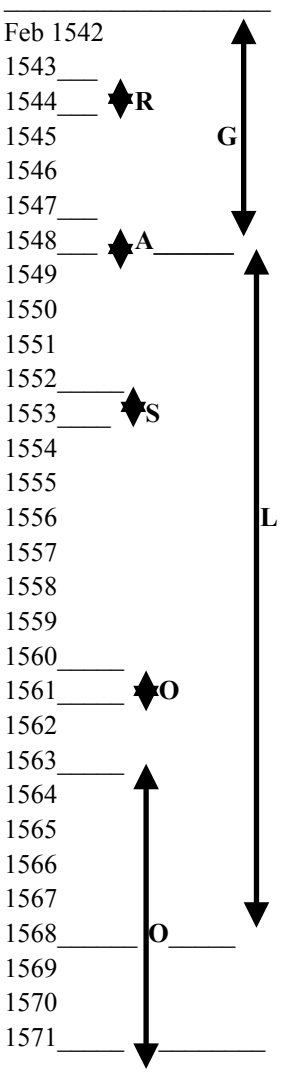
Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007

https://en.wikipedia.org/wiki/Palace_of_Cortés,_Cuernavaca#/media/File:Cuernavaca_Palacio_Cortes.JPGhttps://en.wikipedia.org/wiki/Charles_V,_Holy_Roman_Emperor#/media/File:Jakob_Seisenegger_001.jpghttps://en.wikipedia.org/wiki/Joanna_of_Castile#/media/File:Meister_der_Magdalenenlegende_002.jpghttps://upload.wikimedia.org/wikipedia/commons/f/fe/MOM_D303_Cristobal_de_Olid.jpghttps://upload.wikimedia.org/wikipedia/commons/b/b6/AntonioMendoza.jpghttps://www.sizes.com/units/marc_or_mark.htmhttps://en.wikipedia.org/wiki/Tenochtitlan#/media/File:Reconstruction_of_Tenochtitlan2006.jpg

CHAPTER FOUR
THE MEXICO CITY MINT
LATE SERIES COINAGE OF CARLOS AND JUANA

Late Series Assayers are:
- **G** for Juan **Gutiérrez** Feb 1542 to fall 1548.
- **R** for Francisco del **Rincón** fall 1544 for a few months
- **A** for **Alonso** Gutiérrez Fall 1548 for a few months
- **L** for **Luis** Rodriguez Nov 1548 to some time before Jan 14, 1568
- **S** for Pedro de **Salcedo** briefly in 1553
- **O** for Bernardo de **Oñate** briefly in 1561, again 1564 to December 1571.

Superficially the sequence was GRASLO. However, because of overlaps, it would be more accurate to say GRGALSLOLO. Graphically it would look like this:



One can see from this that G, L, and O were the main assayers with L the clear leader.

A complete set of new punches arrived from Spain in 1542 which they used for the late ("with waves") series. Rincón did not mule any old punches with the new punches, except to re-use his Gothic R assay mark. A viceregal order of 1542 said the engraver must use oM not M for the mint mark. Some say this was to differentiate it from Madrid; however, there was no Madrid Mint until 1615.

A transitional piece between the early and late series is $\overset{o}{M}$–$\overset{o}{G}$ with waves.

$\overset{o}{M}$–$\overset{o}{G}$ followed this, then the $\overset{o}{G}$–$\overset{o}{M}$ or M–G. These occurred during Gutiérrez's first term before Rincón took over for a few months in 1544. During Gutiérrez's second term (1545-1548) after Rincón, he used G–M and M–G.

The Tale of Gutiérrez

Why did Rincón take over for a few months in 1544? Well, that is a complicated story, a bit like a western movie gone wrong — but here goes!

Pedro de Membrilla in Spain owned the office of the assayer from 1536 to 1544. He first rented the office to Gutiérrez in December 1541, while Gutiérrez was assaying early series coins. Francisco de Loaiza was an Oidor (Audiencia Judge) and had power of attorney for Membrilla in Mexico.

There were three Rincóns:
- Francisco del Rincón #1 1st assayer, who had moved to Spain by 1544
- Francisco del Rincón #2 cousin of #1, and a die sinker living in Mexico in 1544
- Alonso del Rincón #1's younger brother, and die sinker living in Mexico in 1544

In January 1543 Loaiza tried to rent the office of assayer to Francisco del Rincón #2, who paid 500 pesos in mined gold (oro de minas). But the Viceroy and Mint Treasurer refused to accept Rincón, perhaps because he was an unskilled cousin of the Rincón #1, the first assayer. But we do not know for sure.



2508

Carlos & Juana Late Series Juan Gutiérrez 4 Reales. Nes-50c; 35mm, 13.63 Grams UNC

Instead, on January 17, 1543, before he left Mexico for Spain, Loaiza signed a second two-year lease with Gutiérrez. When Loaiza left Mexico, that left Membrilla in Spain without a power-of-attorney there. So Membrilla signed his power-of-attorney to another Mexico Oidor, Hernando Goméz de Santillan in September 1543. Santillan signed a sales contract to lease the assayership in April 1544 to Juan Gutiérrez for 1500 pesos in mined gold, who paid a deposit of 750 pesos.

Meanwhile, back at the ranch in Spain, the first assayer Francisco del Rincón #1 showed up at Membrilla's administrator's place. He persuaded him to sell the office of assayer and smelter for 550 ducats, saying no one in Mexico would be willing to pay more. Rincón #1 paid the money and became owner of the offices March 21, 1544. Once Mexico got wind of this, Membrilla's administrator realized Rincón #1 had duped him.

While Francisco Rincón #1 was laughing at his good fortune back in Spain, his brother Alonso and his cousin Francisco Rincón #2, both die-sinkers in Mexico, were trying hard to confuse historians about which Rincón was which.

Although the Viceroy and Mint Treasurer would not let Rincón #2 be assayer after he paid the rent in January 1543, he remained a Mint employee. But in the fall of 1544 a Rincón acted as assayer for a few months (possibly Rincón #2, possibly Alonso). Perhaps Gutiérrez fell ill for a few months and they needed a temp.

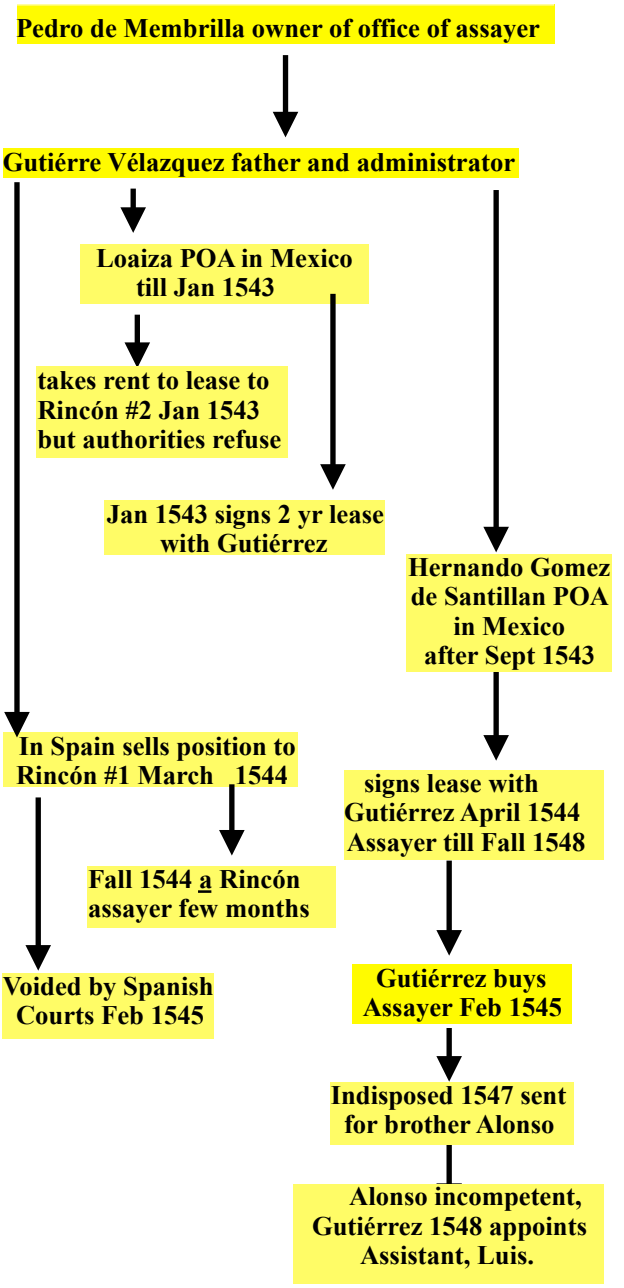
Opposite is a superlative Gutiérrez 4 reales specimen, the best I have ever seen. It has original gun metal toning and no corrosion. All devices are struck up on an unusually broad flan. This is from Gutiérrez's second tenure, after the Tello de Sandoval investigation, when everyone was on their best behavior!

To continue the story, in December 1544, Membrilla's father and administrator (Gutiérre Vélazquez) complained to the Solicitor in the Council of the Indies. He said that Rincón #1 had paid 400 of the 550 ducats and falsified the true value of the position which was 1800 ducats. The Spanish court ruled in Membrilla's favor. Rincón did not respond and lost the assayership. I took these accounts from Proctor, who examined the Archives of the Indies. Earlier accounts put the suit date at Sept 1543 to April 1544.

Membrilla got back the deed to the assayership and smelter positions in February 1545 and sold ownership to Gutiérrez later that month. But it took many months for the news to travel to Mexico. Also in 1545, the Tello de Sandoval investigation was going full tilt.

Gutiérrez opted to continue working in the position himself. But in 1547 he became "indisposed" and sent for his brother Alonso to execute the position. Alonso got permission to travel from Spain in May 1548 and arrived in the summer. But by November he proved incapable. So Juan transferred the position to his assistant, Luis Rodríguez, with the Viceroy's permission until Spain ratified it.

To summarize, here is the tale of Gutiérrez in diagrammatic form starting Jan 1543:



G and R Assayer Coins

Gutiérrez assayed from February 1542 to fall 1548.

We believe the G assayer mark sequence was:

- oMo — oGo
- oM — oG
- oG — oM or M — G
- Rincón assayer few months R – M or M – R
- G resumes 1545 G — M or M — G

We know over-assay marks:



R/G assayer mark 1 Real. #1068

Early G pieces have some colossal mistakes: Upside down assay marks:



Upside down G assayer mark. #863

Assayerless coins:



Assayerless (late G) 1 real. #1053

In 1545, Gutiérrez resumed his assayership after a brief spell of Rincón assaying.

Spain sent de Sandoval to investigate mint improprieties, especially nepotism, from 1544 to 1547. Relatives were by now commonly working together at the Mint. Sandoval's investigation included the entire government. Though it indicted all mint officials, for most it just became one big slap on the wrist. In Spain the Council of the Indies dismissed his findings.

Observations about Gutiérrez coins are:

- Extensive use of scribe lines inside and outside circles of pellets see opposite
- Larger coins were still often double struck to strike up all the devices.
- The Tello de Sandoval investigation surely picked up on the carelessness of upside down assayer or missing assayer marks. Consequently, late G pieces often look very nice and beautifully struck with full broad flans as on page 80.
- Under Gutiérrez, the spelling KAROLVS changed to CHAROLVS, then CAROLVS.
- He used predominantly double annulet stops, but some single annulet stops and trefoil stops.
- New two-tiered castles

Punctuations marks

quatrefoil

pellet also called rondule

O annulet

◊ **mascle**

annulet with pellet, or annulet with rondule

cross potent

♦ **lozenge**



716

Carlos & Juana Late Series Gutiérrez G-oM 2 Reales. Nes-41; 30mm, 6.61 Grams VF



863

Carlos & Juana Late Series Gutiérrez M - Upside Down G 2 Reales. Nes-Unl; 29mm, 6.63 Grams VF



680

Carlos & Juana Late Series Gutiérrez M - G 1 Real. Nes-48J; 25mm, 3.19 Grams VF



1053

Carlos & Juana Late Series Gutiérrez Assayerless 1 Real. Nes-Unl; 25mm, 3.30 Grams VF



750

Carlos & Juana Late Series Gutiérrez Half Real. Nes-51a; 20mm, 1.49 Grams F+



2573

Carlos & Juana Late Series R - M Assayer, 4 Reales. Nes-74 C 1; 33mm, ? Weight NGC AU 50

G and R Assayer Coins continued

Gutiérrez assayed from February 1542 to fall 1548.

Copper 2 and 4 late maravedis were struck under Gutiérrez's tenure, but he did not place his assay mark on copper. Some authorities say the early copper was struck under his tenure, others say that was 1536-1538 under Francisco del Rincón.

During Rincón's few-month tenure in late 1544, some coins have R over G assayer marks:



R/G assayer mark 1 Real. #1068

After G resumed the assayer position, some of his coins showed a G over R assayer mark:



G over R assayer mark 4 Reales. #1430

The Rincón assayer coins show the following:

- Some use a gothic R, others a Latin R
- Either M - R or R - M.
- Planchets are becoming sloppy with much of the lettering off the planchet, i.e., the die is too big for the planchet.

Gutiérrez resumed the assayership after Rincón's brief late 1544 tenure. In February 1545 Gutiérrez bought the assayer post. After Rincón, he used M — G or G — M. The G over R 4 reales below left is M — G, and obviously after resuming his position from Rincón.

Indeed, any broad flan well struck up coin from Gutiérrez is likely to be around the Tello de Sandoval investigation in 1545. This was after Gutiérrez resumed the assayership from Rincón:



Late Series G Assayer 4 reales. #2508

Only 2-3 cuartillos are known for Gutiérrez and one for S assayer, none for any of the other late assayers. Coiners struck half reales under Gutiérrez, but not under Rincón's assayership. Every Carlos and Juana assayer struck half reales except late R, and S.



803

Carlos & Juana Late Series Rincon Gothic R - M 2 Reales. Nes-73; 28mm, 6.63 Grams VF





2574

Carlos & Juana Late Series M - R Assayer, 1 Reales. Nes-72 C 2; 25mm, ? Weight NGC XF 45







1430

Carlos & Juana Late Series Gutiérrez M - G/R 4 Reales. Nes-50f; 32mm, 11.65 Grams VF

A Assayer Coins

Alonso Gutiérrez assayed for a few months late 1548.

Once Gutiérrez bought his position in February 1545, rather than renting it, he opted to continue working in the position himself. But in 1547 he became “indisposed” and sent for his brother Alonso to take over as assayer. Alonso got permission to travel from Spain in May 1548 and arrived in the summer.

Alonso Gutiérrez was Juan’s brother. But, by November 1548, he proved incapable. So Juan, as owner of the position, presumably still “indisposed," sold it to his assistant, Luis Rodriguez. The Viceroy granted permission until Spain ratified it.

For numismatic evidence of A taking over from G, all we need is A over G assay mark coins, shown below. Although this looks like an A over G, experts now question this.

Notice the half real A assayer coin ahead, which has the blunder of the same reverse legends on the obverse. Fancy engraving a coin, missing out the King and Queen’s name entirely!

Varieties are:

- M - A
- A - M
- oM - A

Ahead are 4, 2, 1, and half real A assayer coins.



A over G Assayer 2 reales. Now questioned as an “extra blob of metal” below the A. #749



711

Carlos & Juana Late Series Alonso Gutiérrez M - A 4 Reales. Nes-58; 33mm, 13.39 Grams EF







749

Carlos & Juana Alonso Gutiérrez M - A (Originally Thought A/G) 2 Reales. Nes-57; 28mm, 6.76 Grams VF



748

Carlos & Juana Late Series Alonso Gutiérrez M - A, 1 Real. Nes-56; 25mm, 3.31 Grams EF



1729

Carlos & Juana Late Series A, 0-A, Half Real Wrong Obv. Legends. Nes-63; 21mm, 1.45 Grams VF







1563

Carlos & Juana Late Series, L over R Assayer 4 Reales. Nes-86; 33mm, 13.41 Grams VF+

L Assayer Coins

Luis Rodriguez assayed from November 1548 to some time before Jan 14, 1568.

Luis Rodriguez had a twenty-year tenure. He also bought the position from Juan Gutiérrez. Previously, Spanish residents owned mint positions and rented it to Mexico residents. When Juan Gutiérrez bought the position from Pedro de Membrilla in 1545, he became the first assayer to own the position while working in it.

The Rincón who tried buying it for a song in 1544 was the previous first assayer and either cousin or brother of the late Rincón assayer resident in Mexico at the time.

Numismatic evidence for the GRGALSLOLO sequence comes as L over previous assayers, including an L over R:



L over R Assayer mark on 4 reales. #1563

One could be forgiven for thinking this was an E assayer! But it is not! When it became apparent that Juan Gutiérrez's brother, Alonso, was not technically up to the position, Juan sold the position to his assistant Luis Rodriguez in 1548.

Archduke Maximillian and his wife Doña Maria (daughter of Carlos I) ratified the position in 1549. Why? Because Charles I of Spain preferred living in the Spanish Netherlands rather than in Spain. He spent the majority of his Spanish rule in the Netherlands. Archduke Maximillian was the Spanish regent at the time.

S Assayer coins

Pedro de Salcedo assayed briefly in 1553.

Previously authorities said S stood for Rodrigo de Santillán. Hernando Gomez de Santillán was Oidor (Audiencia Judge) in 1543, possibly related to Rodrigo. However, Proctor opines Assayer S is likely Pedro de Salcedo, who assayed briefly during 1553.

Gutiérrez took advantage of Rodríguez by only selling him the position of assayer, not of smelter. At the time, the two positions were separate. Gutiérrez kept the smelter position.

He then got the Council of the Indies to issue a decree signed by Prince Philip to curtail Rodriguez's position as assayer in 1552. What a nasty piece of work! Around 1553 assayer S (? Pedro de Salcedo) may have arrived in Mexico to take over from Rodríguez while Rodríguez mounted his defense.

Rodriguez appeared before the Audiencia in Mexico in June 1554. Rather than argue the posts of assayer and smelter were one, his lawyer (prosecutor Juan de Salazar) agreed the posts of assayer and smelter were different, and that Gutiérrez still held the smelter post. He then petitioned that the true intention of Prince Philip's 1552 decree was to prohibit a second individual from being a smelter! Prince Philip was Charles I's son who took over as King in 1556 when Charles I abdicated in his favor.

The Mexico City Attorney General opined this was a matter for the Council of the Indies to decide, not the Audiencia. In the interim, the Audiencia told the smelter his job would be taken over by the assayer.

Luis Rodriguez must have celebrated big time when he heard this. He then resumed assaying! But his troubles were not over yet!

Return of Assayer L

Luis Rodriguez assayed November 1548 to some time before Jan 14, 1568. He resumed after assayer S held the post briefly in 1533.



L over S assayer marks finest of two known

#2759.

Above is an L over S, the finest of only two known, documenting that L took his position back after Pedro de Salcedo's brief assayership.

Owner Gutiérrez got his lawyer, Salazar, to present his defense to the Audiencia, saying he owned the post of smelter, and the audiencia could not overrule the Royal decree. The Audiencia agreed, returning the post of smelter to Gutiérrez. But Rodríguez continued assaying.

Meanwhile, Rodríguez had been given 8 months to respond to the Council of the Indies. He did so and in August 1558 they ruled that Rodríguez could keep ownership of the assay position which included smelting. They further ordered Gutiérrez not to use the office of smelter. In October 1558 Juana, Princess of Portugal and Regent of Spain, signed a Royal decree confirming Rodríguez's ownership of the assayer position. King Philip II was unavailable. In 1558 his second wife, Mary I of England died, and he was in England mourning.

Juan Gutiérrez died in July 1558. His brother, Alonso, challenged the decision in the Audiencia in 1559. So, the Council of the Indies subpoenaed Rodriguez again in 1561. Good Lord, was there no end to this legal wrangling!

Old Mexican references talk about assayer I, now thought to be an L with an insufficient foot. Without the scholarship of people like Proctor, it is easy to see how people interpreted I as a separate and rare assayer.



One real "I" Assayer. #1730

In 1561 Bernardo de Oñate was briefly assayer perhaps while Rodríguez traveled to Spain to appear at the Council of the Indies. Oñate then assayed from 1564 to 1571. From 1564 to 1568 he assayed concurrently with Luis Rodríguez, both using their own assayer marks.

L assayer coins come as:
Over-assayer marks:

- L/R (page 98)
- L/A
- L/S (page 108)
- L/O (page 112)

His own assayer marks are:

- M - L
- L - M
- oM - L
- L - oM

In the pages that follow I show L assayer 4, 2, 1 and half real coins, then S assayer 4, 2 and 1 real coins (he did not issue half real coins). Following this is the rare L over S 4 reales, one of two known, then an "I" assayer one real coin.





718

Carlos & Juana Late Series, M - L Assayer 4 Reales. Nes-86; 33mm, 13.11 Grams EF+





717

Carlos & Juana Late Series, oM - L Assayer 2 Reales. Nes-89c; 29mm, 6.73 Grams VF





2070

Carlos & Juana Late Series, M - L Assayer 1 Real. Nes-84 Var; 26mm, 3.39 Grams EF



712

Carlos & Juana Late Series L - M- o Assayer Half Real. Nes-91b; 20mm, 1.65 Grams VF



911

Carlos & Juana Late Series, S - M Assayer 4 Reales. Nes-78; 32mm, 11.16 Grams VF Corrosion



2507

Carlos & Juana Late Series, oM - S Assayer 2 Reales. Nes-77; 29mm, 6.75 Grams VF +



2758

Carlos & Juana Late Series M - S Assayer 1 Real. Nes-76; 24mm, ? Weight NGC XF 45







2759

Carlos & Juana Late Series M - L/S Assayer 4 Reales. Nes-86a; Finest of 2 Known 33mm, NGC XF 45







1730

Carlos & Juana Late Series So Called I Assayer, Really M - L. 1 Real. Nes-84a; 24mm, 3.38 Grams F



1023

Carlos & Juana Late Series M - O/L Assayer i Real. Nes-108a; 24mm, 3.39 Grams EF

O Assayer Coins. Briefly in 1561, then again 1564 until December 1571.

Bernardo de Oñate was assayer briefly in 1561, then from 1564 until the transition to Philip II coinage starting in 1571. The O/L (see left) speaks to his tenure in 1561 or to his concurrent work with Luis Rodriguez 1564-1568. The L/O on the next page speaks to either Luis resuming after Oñate after 1561, or concurrent work with him after 1564.

The Golden Fleece Wreck sunk around 1550, so had early Mexico precobs, and late series coins up to G, R, A and L, but not including assayer S.

The Padre Island Fleet sank in 1554, thus contained G, R, A, L and S but not O coins.

Although the Ines de Soto wreck occurred around 1557, it contained some Oñate coins according to Downing. However, Proctor's research on the Archives of the Indies shows Oñate became assayer first briefly in 1561, so authorities presumably need to re-date the Ines de Soto wreck to 1561 or later.

Quality deteriorates with L and O assayers, and numbers minted increased markedly. As well as the over assay marks O/L, L/O and O/M (O over the Mexico mintmark) these coins come as:

- M - O
- O - M
- oM - O
- O - oM

The later we get in the series, the more they use single annulets as stops. As you can see, all these Oñate coins have single annulet stops (see left). By contrast, Luis Rodríguez used some double annulets and pellets as stops.

Proctor conjectures that Luis Rodríguez may have promoted his assistant Bernardo de Oñate to Lieutenant assayer in 1561 so he could use his own assay mark while Rodríguez spent his time in court. The trail ends here, but Rodríguez's family sold posts of both assayer and smelter after he died in 1569. So it is likely that Rodríguez won again in court.

Rodríguez and Oñate seem to have assayed concurrently or alternately, perhaps due to Rodríguez's ailments. In December 1567 Rodríguez renounced his assayership in favor of his son Cristóbal.

Although Rodríguez owned the positions, his son could not inherit them, and had to buy them. The Viceroy advertised ownership to see how much he could raise for the crown. The King was notified that in Mexico the positions were worth likely 15,000 ducats. That was a lot of money. Mozart earned only 100 ducats a year from his position with the Archbishop of Salzburg in the 1770s!

After January 1568 Oñate continued as sole assayer, and in 1569 the position went on sale.

King Philip II (who came to the throne in 1556) signed a decree in 1566 to introduce the 8 reales coin or silver peso. Lima first struck these in 1568 with 8, 4, 2, 1 and half reales precobs under his name. Mexico started undated 8 reales cobs in 1571, when they changed to Philip's name and the new shield/cross design. Lima adopted this shield/cross design in 1572.

Kings want money! But trying to sell the positions as two positions reduced what people would pay in total. Also, by changing the requirement that the buyer could hire any skilled lieutenant to do the assaying, this increased the pool of applicants to buy the position.

Eventually, the Mexico scribe Juan de Cueva bought the combined position in 1571 for 29,100 ducats. He kept on Oñate as his lieutenant. Though called escribano, de Cueva got a cut of 1.5 maravedis per mark assayed at the mint, on top of his salary. Basically the King's accountant, he kept ledgers of income and expense, quantities of coin minted, bullion bars stamped and records of quinto real realized. Whether his take was enough to afford 29,100 ducats, I have no idea. A ducat was the European equivalent of the escudo worth 16 reales. Thus the scribe paid almost half a million reales (or 58,000 pesos)! Perhaps he was a clever speculator or had family money.

Owners of the Mexico assayer position were:

- Pedro de Membrilla 1536-1544
- Francisco del Rincón 1544 sale annulled 1545
- Juan Gutiérrez 1545-1548 (ratified 1549)
- Luis Rodríguez 1548-1569 then vacant for 2 years
- Juan de Cueva 1571-

In 1569 the Mexico City Mint moved to a new building, which is now part of the National Museum of Archaeology, History and Ethnography.

Left is O/L; ahead are L/O and plain O coins.



914

Carlos and Juana Late Series, oM-L/O Assayer 1 Real. Nes 88 E; F



2242

Carlos & Juana Late Series oM - O Assayer 4 Reales. Nes-110b; 32mm, 13.45 Grams EF



751

Carlos & Juana Late Series O/L - oM Assayer 2 Reales. Nes-105a; 29mm, 6.67 Grams VF



657

Carlos & Juana Late Series O - M Assayer 1 Real. Nes-104a; 23mm, 3.22 Grams VF



719

Carlos & Juana Late Series oM - o - o Assayer Half Real. Nes-107d; 19mm, 1.58 Grams VF



Present day National Museum of Anthropology, Mexico.
Previously the Museum of Archaeology History and Ethnology of Mexico.
It was previously the home to the second Mexico City Mint,
and is now a modern campus covering 20 acres.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks*. EN RADA publications, West Palm Beach, FL 2003.

Downing, C.S., *The Charles and Joanna Coinage of Mexico City 1536-1571: A Research Study on the Ear Series and Introduction to the Late Series.* Daniel Frank Sedwick Treasure auction #12. October 25, 2012. pp179-186

Garcia-Barneche, A., *The Tumbaga Saga.* 2nd Edition. Daniel Frank Sedwick Publishing, Winter Park, FL 2018.

Kelly, P., *The Universal Cambist and Commercial Instructor: Being a full and accurate treatise on the exchanges, coins, weights, and measures, of all trading nations and their colonies*. Second Edition, with supplements. London: Longman and Co., *1835*.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572*. ANS. NY 1955.

Opitz, C.J., An *Ethnographic Study of Traditional Money*. First Impressions Printing. 2001.

Ponterio, K.M., *The Coinages of Mexico Struck During the Reign of Charles and Johanna*. Privately published 2003, revised June 2009, in Ponterio & Associates, Inc. The 2009 Los Angeles ANA Auction.

Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.

Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published. Laguna Hills, CA. 2005.

Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?*).Numismatics International bulletinVolume 50. Nos. 1/2. January/February 2015. Dallas, Texas.

Sedwick, D. and F., *The Practical Book of Cobs*. 4th Edition. Self-published. Winter Park, FL. 2007https://en.wikipedia.org/wiki/Tenochtitlan#/media/File:Reconstruction_of_Tenochtitlan2006.jpg

CHAPTER FIVE
MORE PRE-COBS — FROM SANTO DOMINGO AND LIMA.



Santo Domingo in Hispaniola on River Ozama. Courtesy Google maps.

Dan Sedwick calls the first coins of Mexico "precobs". These are much like their preceding medieval coins. The medieval period finished around 1500. The first colonial mint of Mexico started in 1536.

In the late 1500s colonial Spanish coins moved to cobs, but there were still two last gasps for precobs before this happened — Santo Domingo and Lima.

In 2009 I attended an American Numismatic Association Seminar where Dan Sedwick educated me about Spanish colonial coins. I asked him what I should collect. He suggested a type collection of one cob from each of the different Spanish colonial mints. After an extensive Mexico City precob collection, I decided to complement it with one cob from each colonial Spanish mints.

Santo Domingo Pre-cob Coinage

The island of Hispaniola became two countries in 1697 when the French and Spanish resolved their disputes over owning the island. The French part became Haiti; the Spanish part became Dominican Republic. Santo Domingo, shown above, is in the south of the Dominican Republic. The mint operated there from 1542 to 1563 mainly under Carlos and Juana with the mint mark SP. Silver coinages stopped in 1552, and copper in 1563. The mint opened again in 1578 for less than a year under Philip II.

On the left bank of the Ozama River, Bartolomeo Columbus, Christopher's brother, founded the city of Santo Domingo as the capital of the first Spanish colony in the New World. He originally named it Nueva Isabella in honor of the Queen.

A hurricane destroyed Nueva Isabella. They rebuilt the city on the right bank in 1502, naming it in honor of St. Dominic (also called Dominic of Osma) who founded the Dominican Order.

The mint had only two assayers: Francisco Rodríguez assayed there from 1552 to 1564. Christóbal Medina assayed in 1578 for Philip II's coinage — a very rare shield cob.

Downing (see references) listed a census of 90 silver coins known from the first Santo Domingo Mint 1542-1552. By contrast, we know of thousands of Mexico City Carlos and Juana coins.

The first Viceroy of New Spain from 1535 to 1550 was Antonio de Mendoza. He favored Havana's harbor over Santo Domingo's harbor. As a result, all the ships laden with bullion passed through Havana, not Santo Domingo. In



631

Carlos & Juana. Santo Domingo 4 Maravedis 1542-1556 Francisco Rodriguez Assayer. KM-47 25mm, 2.87 Grams F

1771 Spain recalled all old Santo Domingo precobs to replace them with milled coinage. Santo Domingo precobs are thus rare.

In 2013 Anchor Research and Salvage, (the Dominican extension of Global Marine Exploration, a Tampa, Florida based firm), recovered material from a wreck off Punta Cana (see map on last page). The wreck, a merchantman from Seville, sank around the late 1540s to early 1560s. It carried 1,200 pieces of pewter tableware (a third of which was made in England). Consequently they called it the pewter wreck. It also yielded brassware, glassware, ceramics, cloth, and 10 coins, likely from a single purse.

Daniel Frank Sedwick auctioned these 10 Santo Domingo silver coins in his 14th Treasure Auction, the largest ever auction appearance of Santo Domingo precobs. Augi García-Barneche conserved the coins and retoned them. Cori Downing did a census of Santo Domingo silver Carlos and Juana coins, which she wrote up in the catalog, listing the 90 known coins.

The designs are similar to Mexico City and early Lima precobs. The obverse shows a Castile and Leon shield with a pomegranate at the base (for Granada) with a legend around. The reverse shows two crowned pillars of Hercules with a banner for an abbreviated PLVS VLTRA, also with a legend around. Downing made the following points when comparing them to Mexico City coins:

- The designs were cruder.
- The assayer mark was on one side of the shield, the denomination on the other. The mint mark was each side of the pillars.
- Misspellings were much more common.
- There are more stops inside words.
- The commonest stop looked like a club on a playing card, which she called a clover.
- Transposed castles and lions were more common.
- There were often only 2-3 letters in the banner like PL, LV, or PLV.
- Lettering was usually mixed, with Gothic and Latin styles.
- The F assayer mark is commonly upside down.
- Retrograde S or reversed S and P mint marks are common.
- The assayer mark is not present on the half real, always present on the four reales, and sometimes present on the one and two reales coins.

The half real coins show a crowned K and J (addorsed) obverse, and crowned pillars reverse. These coins are so rare that many standard references show only drawings or rubbings of the coins.

The Krause-Mishler catalog lists under Santo Domingo:

- Ferdinand and Isabella crowned F copper 1, 2 and 4 Maravedis and silver 1/4, 1/2 and 1 real coins struck in Seville and Burgos, not Santo Domingo (see plates on pages 17, 20 and 21).
- Carlos and Juana 1, 2, and 4 Maravedis Santo Domingo coins with addorsed J obverse and two pillar with S P reverse, showing mainly drawings not photos (I show a 4 Maravedis coin opposite). They also show a billon 2 and 4 maravedis with castle between S and P obverse and lion reverse.
- Silver 1/2, 1, 2, 4 and "10" reales.

The numbers of varieties listed are:

	Krause Mishler 2002	Calico Trigo 2019	Downing 2013	Downing Number in census
1/2 R	1	2	4	14
1 R	2	2	5/10	17
2 R	2	6	5/15	29
4 R	8	3	12/10	30

2 numbers refer to obverse and reverse varieties

The Santo Domingo "10 reales".

As well as the half, 1, 2, and 4 reales there is what it termed a "ten" reales variety. However, there is no Arabic numeral ten, just an "X". Krause-Mishler list the coin as 27 grams, which is eight reales. The Mexico City eight reales coin also uses an X for denomination not an Arabic numeral.

Supposedly, they used a cross potent because the four bars on the end of the cross each had



2177

SANTO DOMINGO 4 REALES. SED- SD1; 36 MM, 11.42 GRAMS, VF SEA SALVAGE.

two ends, making eight tips. Really? If the coin truly has the weight of an 8 reales piece it must be 8 reales, but the cross potent explanation stretches the imagination.



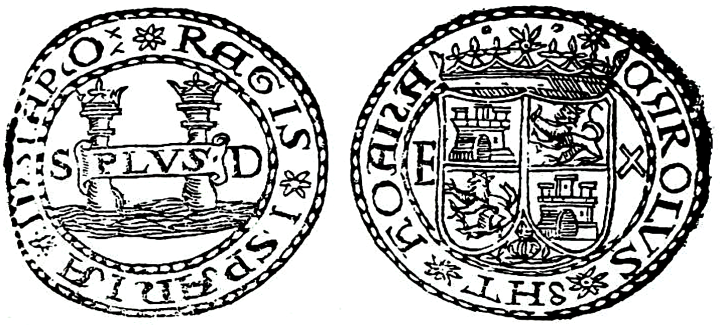
Mexico City 8 Reales showing cross for denomination. Courtesy of Heritage Auctions HA.com

In *Money of the Caribbean,* ANS COAC in 1999, (see references) John Kleeberg lists and illustrates all known drawings of the 10 reales Santo Domingo coin. There is no surviving specimen to weigh. Who knows where Krause got their weight from!

Only four genuine examples of this large coin are known to history. But their whereabouts are unknown today. Calico Trigo and Krause show rubbings of the coin. Calico Trigo also provides a rubbing of a counterfeit. Kleeberg in 1999 showed all known pictures of the coin starting in a book written by Plantin and Paris in 1576.

To me the differences from other known coins are too great and suggest it is a fantasy coin:

- The coin shows waves under the pillars, which none of the other Santo Domingo silver precobs show. Nevertheless, one rare early Carlos and Juana 3 Reales type comes with waves during the without waves period.
- The mint mark is SD not SP or PS as in all the other Santo Domingo precobs.
- The denomination is shown in the correct spot at the side of the shield, but is shown in the drawing as an X not a +, and the X is not a cross potent rotated 45 degrees.
- The Assayer looks like an E not F, but may simply be an older F (note the lack of serif at the base) and mint documents support an F assayer. Although around 1545-1555, some feel there was an E assayer, Dan Sedwick opines the assayer mark is simply an F with a pronounced bottom foot.
- The castle and lions are transposed, which happens in two of four 4 reales Santo Domingo precobs shown in Menzel (page 154). This is one of the few correct features.
- Most other Santo Domingo precob labels show only two or three of the letters of PLVS. This is the only cob to show all four letters.
- Legends of known E assayer pieces show Gothic Ls, h's and sometime Cs and retrograde S. The fantasy legends show a Gothic A, N, h and G, but not L and no retrograde S.
- The fantasy piece legend reads CAROLVS SHT hOANA, and on the reverse REGIS ISPANIA INDIAP,O. Genuine pieces say CAROLVS ET IhOANA, REGIS ISPANIA ET INDIA(RVM).
- The legends on the original Santo Domingo E and F assayer precobs all start with a cross pattée. The stops are bird-like as seen in the plate opposite. On the 1576 drawing the legends and the stops are all seven-pointed stars with a circle in the middle.



Plantin & Parijs, 1576 1st drawing of 10 reales. From Newman Numismatic Portal.

Why the P in SP? It should be Santo Domingo or SD. There are four answers:

- P could be a stylized D.
- P could be an assayer, but we know of no P assayer and F is already on the coins as an assayer.
- P could stand for Primera in Spanish for Primera Ciudad (first city) or Primos Civitatis in Latin. Indeed, this was the first city in the Americas founded in 1496.
- P could stand for Santo Domingo del Puerto (the port of Saint Dominic). Jorge Proctor, the eminent medieval Spanish scholar, favors this translation.

Opposite and overleaf I show 4, 2 and 1 real Santo Domingo precobs.



1642

Santo Domingo Carlos & Juana 2 Reales Retrograde S. Sed-SD 1; 25.5 mm, 4.37 Grams VF 25 Cut Down



2853

Santo Domingo 1 Real, No F or Denomination. Sed-SD1; 24 mm, 2.07 Grams, F+

Lima Mint Pre-cob Coinage

There was a third group of precobs. Philip II issued new monetary reforms in 1566 specifying 8 reales coins or pesos. The Lima Mint opened in 1568, and started producing pre-cobs under Philip II rather than Carlos and Juana, including an 8 reales. The designs were the same as the Mexico City and Santo Domingo precobs.

The first New World mint was Mexico City in 1536. The second was Santo Domingo in 1542. The third was Lima, Peru in 1568. A Mexico City early series 8 reales surfaced from a wreck, fetching a mid six-figure price at auction in 2006. Before this, the Lima 8 reales precob was the first "dollar" of the Americas. This was part of Lima's pre-cobs of 1568-1571.

Thus all three mints, Mexico, Santo Domingo and Lima, produced pre-cobs before 1571, all the same basic pattern:

- The shield obverse shows Castile and Leon with a pomegranate at the base of the shield. Inscriptions read CAROLVS ET IOhANA, or on the Lima ones PHILIPVS.
- The reverse shows two crowned pillars of Hercules, with variations on PLVSVLTRA (sometimes within a label) between.
- Mint marks and assay marks may be on obverse or reverse.
- Denominations are usually on the reverse except for Santo Domingo coins.
- None of them are dated.

On the Lima precobs the assayer mark R for Rincón is on the obverse to the left of the shield. However, a few rare 2 reales show it to the right. The denomination and mintmark (P for Peru, rather than L for Lima, as Peru then had no other mints) are on the reverse between the pillars. There are only two assayers: R for Alonso Rincón (1568-1570) and X for Xinés Martinez (1570-1571). X is very rare.

Sedwick's *Practical Book of Cobs* in 2007 said that this Alonso Rincón is the same one that worked at the Mexico City Mint in 1543 (assayer R for the Mexico City late series), and also the Potosi Mint, starting in 1574. In other words, he assayed in all three mints from 1543 to 1576.

However, Proctor's recent scholarship suggested the Mexico City Rincón was Francisco Rincón #2, the cousin of early series Francisco Rincón #1, or Alonso Rincón (#1 Rincón's brother).

An assayership was a senior position and it is more likely that Alonso stayed a die sinker and an older Rincón #2 briefly took over as assayer.

This would also tie in with an unlikely 31-year stretch between posts, starting in 1543 in Mexico City and in 1574 in Potosí.

Francisco del Rincón #1 was the first assayer at the Mexico City Mint from 1536 to 1538. In 1543 Pedro de Membrilla's administrator father accepted payment from Francisco del Rincón #1 after he returned to Spain (the first Mexico City Mint Assayer). This was to lease the position of Mexico City assayer for his cousin Francisco del Rincón #2 in Mexico. The next year, Rincón's cousin of identical name (#2), or #1's much younger brother Alonso, briefly took over assayership during Juan Gutiérrez's tenure. This cousin in Mexico (#2) was already working at the mint as a die sinker. Alonso Rincón, younger brother of the Rincón #1 in Spain, was also working as a Mexico City die sinker at the same time, and presumably in his 20s.

The top position at the mint was the Treasurer, followed by the Assayer. It is certainly conceivable that Francisco #1's brother, Alonso, worked as a die sinker as a young man in Mexico in 1544, then worked his way up to assayer in Lima and Potosi 30 years later. However, Francisco del Rincón #1 was assayer in 1536 in Mexico City. And his brother would have to have been considerably younger than he to have taken up an assayer position in Lima in 1568 and Potosi in 1574 (32 and 38 years away respectively). The average age of death of European nobles in the 1500s was early 50s (see references).

As we know there were two Francisco del Rincóns working at the mint, why not two Alonso del Rincóns? I await further scholarship from Jorge Proctor!

When I first came to the US from England in 1977, I met a physician by the name of Herbert Gray III. I had never met someone with an ordinal before! It then struck me how common it was in America to name your children after yourself, but not in England!

The pre-cobs ahead show the obverse legends continuing on the reverse: PHILIPVS II D HISPANIARVM ET INDIARVM REX (Philip II by the Grace of God, King of the Spains and Indies).



1366

Lima 4 Reales Pre-Cob Philip II, Alonso de Rincón Assayer. Sed-Li; 33mm, 13.22 Grams F+



1641

Lima 2 Reales Pre-Cob Philip II, Alonso de Rincón Assayer. Sed-Li; 27mm, 6.36 Grams VF



2013

Lima I Real Pre-Cob Philip II, Alonso de Rincón Assayer. Sed-Li; 25mm, 3.05 Grams VF



1464

Lima 1/2 Real Philip II, Rincón Assayer, Crowned RI/Pillars & P. Sed-Li; 20mm,1.62 Grams EF

The half real opposite needs some explanation. The obverse shows a crowned RI. It is possible this stemmed from a Gothic K seen on the early Mexico 4 maravedis piece on the right. Philip used the same device. This looks similar to the Carlos and Juana half-real second down on the right.

The obverse shows a crowned RI for Karolus et Iohana, with the legends +PHILIPVS II D HISPAN, continuing on the reverse IARVM ET INDIARVM with pillars and waves in the center. The metal is thin. So when they struck the obverse, metal flowed into the die's R and I. This creates "ghosting" on the reverse where there is insufficient metal to fill the die's pillars.



Above 4 maravedis #715. **Below 1/2 real P** #1618



Countermarks

Another subcategory of coins are the countermarked copper 4 maravedis pieces with a key or anchor. Below is the key countermark, the first New World countermark in 1577. These are often in poor condition, and the countermark may split the coin.

In April 1577 Dr. González de Cuenca, President of the Audiencia, directed a key countermark on all 4 maravedis, to reduce their value to 2 maravedis (coin below):



Carlos and Juana Copper 4 Maravedis First Official Counter-Mark in New World (With Key 1577) Decreasing to 2 Maravedis

782

2679

Lima 1/4 Real Philip II, Alonso de Rincón Assayer, Crowned R/I. Sed-Li; 13mm, 0.40 Grams VF

Apparently, Spain awarded the City of Santo Domingo the key in their coat of arms. The host coin is a 4 maravedis Santo Domingo copper.

Opposite is a rare Lima cuartillo or quarter-real. The obverse sports a crowned R representing, like the half-real, a gothic K for KAROLVS. The reverse shows a crowned I for IOhANA. Beside it is the R assayer mark for Rincón.

Remarkably, most of the legends are legible: PHILIPVS o II o HI on the obverse, and SPANIARV(M o R)E on the reverse.

Anchor Countermark

According to Dan Sedwick:

Jamaica put the anchor countermark (below) on imported copper from 1611 to 1616 indicating they imported the copper for use there. There is also a countermark S for Jamaica on these coins that dates to 1581-1582. The value of these coins in Jamaica had to do with the current value of a maravedis (which rose from 44 to a real under Ferdinand and Isabel, up to 34 to a real, hence a 4 maravedis would become a larger fraction of a real).

What was controversial was that the 4 maravedis coins were imported into Jamaica in 1581 as 2 maravedis (per the 1577 decree, whether they had the key countermark or not) yet were circulated at full value (4 maravedis = 1/11 real)! Then by 1611 the value of the maravedi had increased (to about 1/7 real), so that is the value at which the new importation (denoted by the anchor countermark) circulated.



1581 Anchor countermark on Mexico 4 maravedis.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Calico F. and X., and Trigo, J. *Numismatica Española.* Barcelona, Spain, 2019.

Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks.* EN RADA publications, West Palm Beach, FL 2003.

Doty, R.G., & Kleeberg, J.M., Money of the Caribbean. *Paper Chase: The 10 Reales of Santo Domingo.* pp 5-19. Coinage of Americas Conference. ANS, NY 1999.

Downing, C.S., *The Charles and Joanna Silver Coinage of Santo Domingo, 1542-1552.* Daniel Frank Sedwick Treasure auction #14 October 30, 2013. pp99-103.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.

Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.

Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.

Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?*).Numismatics International bulletinVolume 50. Nos. 1/2. January/February 2015. Dallas, Texas.

Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007

https://www.cambridge.org/core/journals/journal-of-economic-history/article/lifespans-of-the-european-elite-8001800/BE252C4B25C4AAC29ED62D591A1675AC/core-reader?source=post_page

https://archive.org/details/moneyofcaribbean0000doty/page/15/mode/1up

CHAPTER SIX
A TYPE COLLECTION OF SPANISH COLONIAL COBS MEXICO & LIMA

Every year I attend the American Numismatic Association Summer Seminars for two weeks. I call it "Coin Camp". One year Dan Sedwick gave a course on treasure coins and cobs. I asked him how people might collect cobs. He suggested a type collection of cobs. Here is a classification of silver cobs:

Four Styles of Silver Cobs

Precobs, shield/pillars, round and well struck:
- Carlos and Juana early and late
- Santo Domingo
- Lima precobs 1568-1571

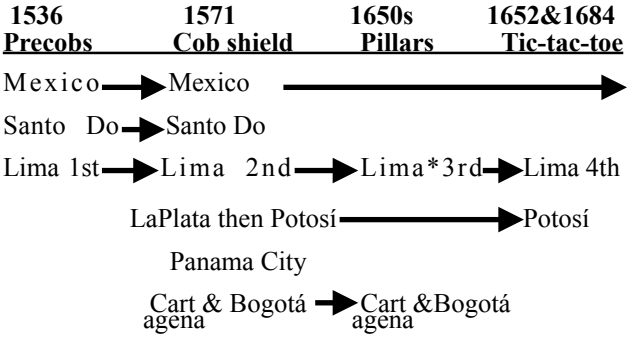
Shield/Cross, denomination, assayer and mint usually shield side, used for mints starting 1571-1651. Coins cruder, called cobs:
- Mexico undated 1571-1607 and dated 1607-1733
- Santo Domingo 1578
- Lima shield
- La Plata then Potosí
- Panama City
- Cartagena
- Bogotá

Pillars, Pillars/Cross for Lima, Shield/Pillars for Colombia used for mints starting 1651-1659
- Star of Lima
- Cartagena
- Bogotá

Tic-tac-toe, reverse used for mints starting 1652-1684
- Lima pillar and waves
- Potosí transitional
- Potosí pillar and waves

Thus precobs lasted around 1536 to 1571. In 1571 mints started cobs using a shield obverse and cross reverse. This included Mexico, Lima, Potosí, Panama, and the two Colombia mints.

After the Potosí Mint investigation from 1649 to 1652, all mints (except Mexico) changed their silver to the pillar style. Mexico was distant and unscathed by the scandal, and had the easily recognized cross. There were two pillar styles: plain pillars and tic-tac-toe. The star of Lima and the two Colombia mints used the plain pillars. Potosí and the final Lima mint used the tic-tac-toe.



Spanish American cob types, diagrammatic sequence

Ten Spanish Colonial Mints

(Dates refer to when they struck Spanish colonial cobs not when they opened the mints.)
1. Mexico City 1536-1821.
2. Santo Domingo 1542-1552 silver, 1542-1563 copper. 1578 for 1 year silver.
3. Lima, Peru 1568 intermittent closures, permanently open after 1684 until 1824.
4. La Plata (now Sucre, co-capital of Bolivia) 1573-4 for a few months only.
5. Potosí, Bolivia 1574-1825.
6. Panama 1580-1583.
7. Cartagena, Colombia 1621-1655.
8. Santa Fe de Bogota, Colombia, 1622-1822.
9. Cuzco, Peru 1698 only.
10. Guatemala 1733-1821.

(Santiago de Cuba produced rare coppers in 1741 only.)

Styles of Gold Cobs

Gold emissions are another subject which I will cover in the next chapter. But Spanish Mints used similar devices on gold as they did on silver cobs. Mints that produced gold were:

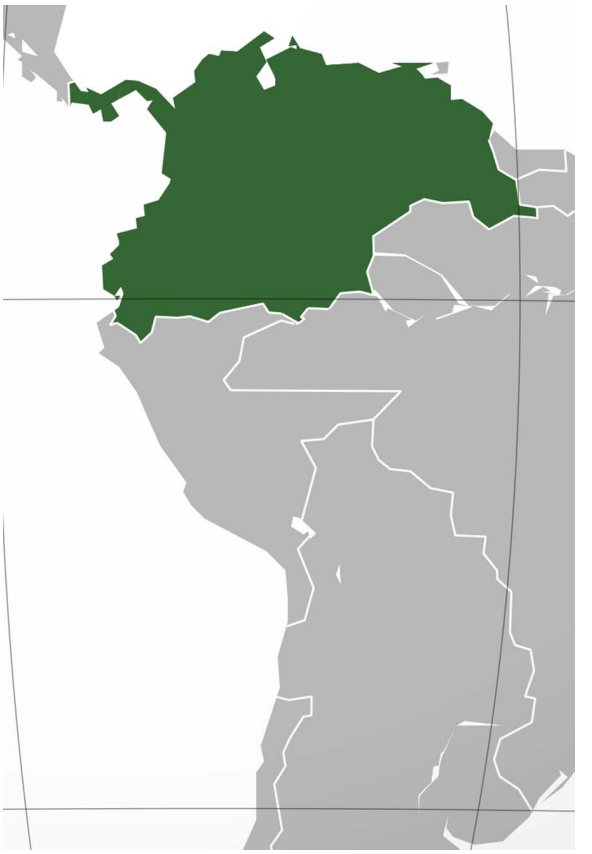
- Mexico 1679-1732 Shield/Cross
- Cartagena 1622-1635 Shield/Cross
- Bogota 1622-1756 Shield/Cross
- Lima 1659-1750 Cross/Tic-tac-toe
- Cuzco 1698 only Cross/Tic-tac-toe

Overleaf is a listing of Viceroyalties and Spanish American cob types.

Viceroyalties



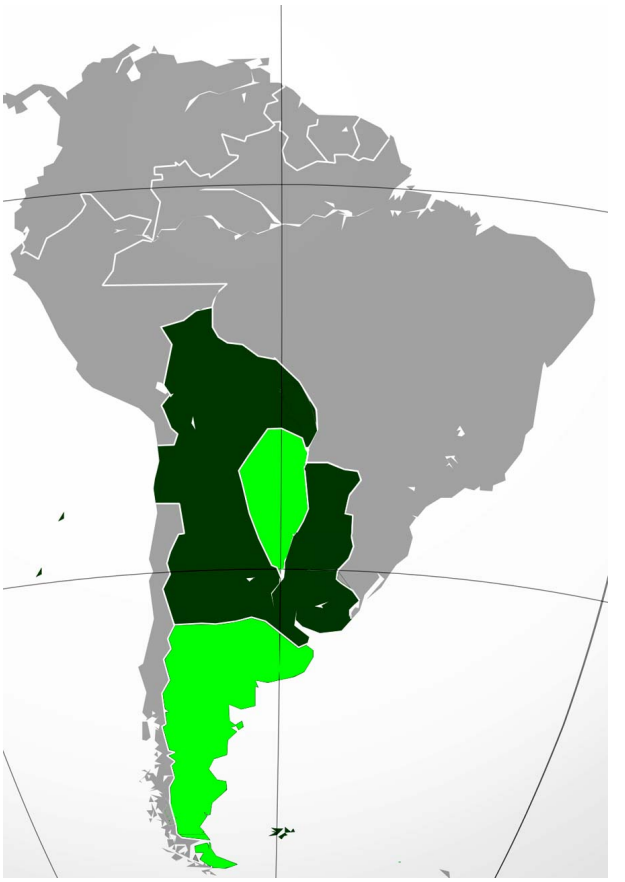
Viceroyalty of New Spain 1524.



Viceroyalty of New Granada 1717 (present day Colombia, Ecuador, Venezuela, Panama).



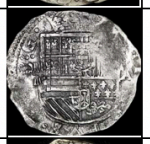
Viceroyalty of Peru 1544.



Viceroyalty of Rio de La Plata 1776 (Argentina, Bolivia, Uruguay and Paraguay).

SPANISH AMERICAN SILVER COB TYPES

Black = denomination made

Type	Obverse	Obverse markings	Reverse	Rev Markings	1/4	1/2	1	2	3	4	8	Date	Assayers
C&J Mexico Early		oM and oM/Assayer		Pillars + label denom								1536-1542	R,P,F,G,
C&J Mexico Late		oM oMo or M one side assayer other side		|| denom ||								1542-1571	G,R,G,A,L,S,L,O
C&J Santo Dom		F and Denom		S Pillars P + label							?	1542-1552	F
First Lima		R or X assayer		P + denom.								1568-1571	R,X
Mexico		oM then Assayer/denom		none								1573-1607 undated	O,oF,F,F-oD,F,
Mo dated		oM then Assayer / denom		none								1607-1773 dated	F,A,F,D,P,G,L,J,D,R,G,F, MF
Santo Domingo		oSD/X		none								1578	X
Second Lima shield		* denom / P oD or PX		none								1572 1577-1587 +1592 and undated	X,oD
Third Lima Star of Lima		denomV||L*M ||denom V		none								1659-1660	V
Fourth Lima P&W		L to left, Assayer to right		L | denom | assayer PLVSVLTRA assayer | date | L								1684-1752	V,R,V,R,V,M,R,H,R,H,R, H,M,H,M,N,V,R
La Plata and		P over R to left dennom to right		none								1573-1574	R only half reales attributable
Potosi shield		P over assayer left denom to right										1574-1652	R,M,L,B,X,S,L,C,B,A,B,Ror RL,B,R,C,Q,M,PAL, T,P,T,P or oP, T,P,T,TR,FR,TR,T,V,P,R, Z,O,E,
Potosi shield	Countermark											1640s to 1652	20 C/Ms of recent assayers
Potosi Trans		Transitional		Transitional								1652	E transitional 8 McLean types
Potosi P&W												1652-1773	E,C,V,VR,CH,F,Y,M,YA, E,M,P,C,q,E,q,C,q, q-Y,Y-V,V-Y,V-J,V-Y,
Panama City		A over P one side assayer other side		none								1580-1583	P-M, oX, C-oX, oB
Cartagena shield		R over N one side or N over R Assayer same or other side		none								1621-1635	A, H, E
Cartagena P&W		C over S on right denom to left		none								1655	S
Bogota shield		N over R over assayer to one side denom to other		none								1622-1651	A,T,A,P,A,R,
Bogota P&W		Later ones have assayer on one side and denom on other side of shield		||denom over NR|| vertical assayer to left of pillars date to right								1651-1748	Variations on PoRAMOS, Variations on OLSM, G (or P, P.G. or PoGa), IeMs, G (or P, P.G. or PoGa), V.A. (or ARCE), A9or ARC), S (or SAN),M, MP
Guatemala		Pillar dollar struck on cob like planchet		Pillar dollar struck on cob like planchet								1733-1753	J

The Potosí Mint scandal caused the move from shield to pillar silver cobs. Gold did not follow those patterns. Only Lima and Cuzco used the tic-tac-toe, Mexico and Colombia used shields.

Gold cobs also followed a much closer weight tolerance than silver. Silver could be 0.3 to 1 gram underweight. But gold was much tighter.

In 1622 Colombian Mints were both using the shield and cross design for silver. Designs had not yet changed to pillar and waves. So in 1622 they continued them for their gold. With the Potosí Mint scandal Spain saw no reason to change gold; only silver was in question.

After the Potosí Mint scandal, the Lima Mint switched to pillars when they reopened in 1659. Two rare star of Lima gold (pillars enclosing a shield) 8 escudos exist in the bank of Spain in Madrid. But their punches do not match any other known assayer. Some suspect they are forgeries. When Lima reopened again in 1684, Lima used the tic-tac-toe design for their silver and did the same with their gold in 1696.

Mexico silver cobs were shield and cross from 1571 to 1732. Their gold from 1679 naturally followed the same designs.

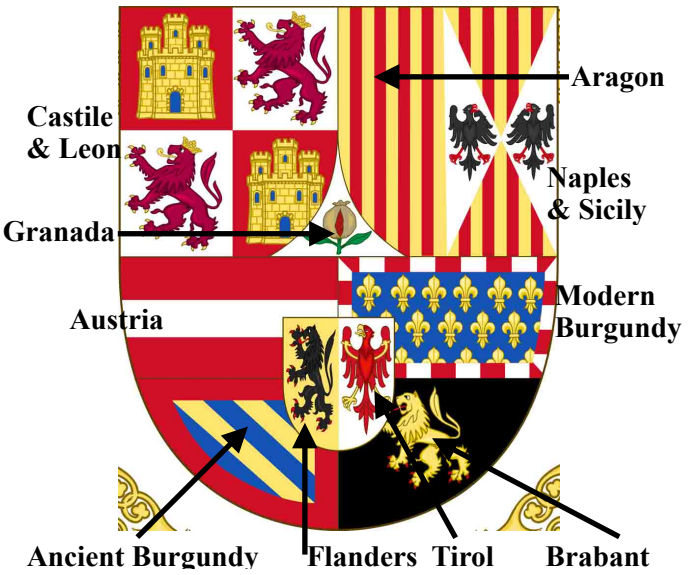
Cuzco in 1698 with their one year type copied Lima, their closest mint. Thus gold styles are: shield for Mexico and Colombia mints; and tic-tac-toe for Lima and Cuzco mints.

The Spanish king sought to counterbalance his representatives in the New World. Initially he just appointed Governors of various areas. Then he appointed Viceroys, with balancing Audiencias. Viceroyalties (see previous page) and early Audiencias were:

4 VICEROYALTIES	**AUDIENCIAS**
Nueva España 1535	**Santo Domingo** 1526
Peru 1544	**Mexico** 1527
New Granada 1717	**Panama** 1536-1543
La Plata 1776.	**Guatemala** 1543 & others

Mexico Mint Silver

Carlos I was co-ruler with his mother Juana La Loca. She sounds like she had schizophrenia. In 1505 her father, Ferdinand II, got himself appointed her guardian. Around 1520 her son, Carlos I, had her confined at the Royal Palace in Tordesillas, where nuns looked after her until she died in 1555.



Habsburg Shield of Philip II

Of Habsburg descent, Carlos I also became king of Germany and Italy, and Holy Roman Emperor. Born in Flanders, he was brought up in the Spanish Netherlands. Called the "absentee King" he spent about 16 years of his 40-year rule in Spain, 10 years on the road, and 14 in the Northern Europe. A lavish spender, he mortgaged Spain to the hilt. In 1556 he abdicated the Spanish throne in favor of his son Philip II. Carlos suffered from severe recurrent gout, and retired to a monastery, dying two years later aged 58 from malaria. He died holding the same cross Isabella of Portugal, his wife, held when she died 19 years previously.

The crown of Castile and Leon added the crown of Granada after Isabella drove out the Moors in 1492. This is the shield seen on Carlos and Juana pre-cobs, also called the lesser or abbreviated coat of arms of Carlos and Juana. When Queen Isabella died in 1504, her son-in-law, Juana's husband, Philip I "the Handsome," added the Habsburg arms to the shield.



Shield from 8 reales Philip III Mexico City cob.
#2505

Though King Philip II started his reign in 1556, he only issued an edict to change to the Habsburg shield style of cobs in 1570. He also authorized 8 reales pieces in 1562. Thus the Mexico City Mint did not switch over from the old Carlos and Juana pre-cobs to 8 reales Habsburg shield Philip II cobs until 1571.

Two years after they married, Philip II's first wife, Princess Maria Manuela of Portugal, died in 1545 from a postpartum hemorrhage. In 1554 he married Queen Mary I of England, celebrated on English coinage:



1554 Philip & Mary Shilling, 31mm, 6.23 Grams #2302

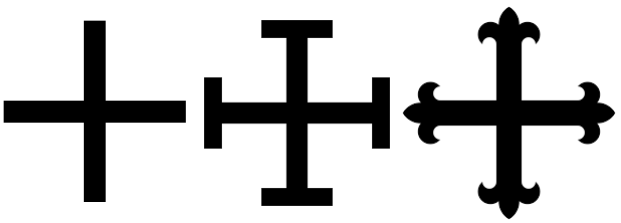
Mary thought she was pregnant, but it turned out that her abdomen swelled from a gynecological tumor which caused her death aged 42. Philip married twice more, but he must have been the kiss of death — both his third and fourth wives died before him! It was Philip who spent 10 million ducats to send the Spanish Armada of 130 ships to invade England in 1588. The Catholic Habsburgs lusted after overthrowing Protestant Queen Elizabeth to replace her with a Catholic.

Ferdinand and Isabella's daughters included Juana La Loca and Catherine of Aragon. Catherine married Protestant English King Henry VIII. Their daughter was Queen Mary I, the half sister of Elizabeth I of England.

How ironic that Philip fought his first wife's half-sister! But the Spanish wanted to stop English privateers (and their Dutch allies) from taking their ships. Stupidly, Philip appointed an incompetent Armada commander who had no naval experience! Curiously, royal favors trumped winning wars. The English and Dutch had more maneuverable and faster ships, and used fire ships.

The Spanish Armada used 100,000 cannonballs. But no English ship was seriously damaged! So egregious was Philip's deficit spending that the Spanish Crown declared bankruptcy three times — in 1557, 1575, and 1596!

The reverse of Spanish American shield coins was a cross. Spain and the Habsburgs were ardent Catholics. What could be more natural than a cross? There are many sorts of cross which have a multitude of names.



Greek Cross Cross Potent Cross Fleury

A Jerusalem cross is a cross potent with small Greek crosses in each quadrant. Mexico used a cross like the cross fleury (also called the floriated cross) but with a ball on each end between the two flowers on their silver. Spanish numismatists call it "cruz potenzada-floreada". It does not have an English name, though we could call it the Mexican cob cross (below).



Mexican Cob Cross, variant of Cross Fleury

Gold cob reverses used the cross potent:



Cross Potent on Mexican gold cob

Other ways of looking at Mints were:

- **Ephemeral —** Panama, Cuzco
- **Minor** — Santo Domingo, Guatemala
- **Major** — Peruvian: La Plata/Potosí, Lima
  — Colombian (Santa Fe, Cartagena)
  — Mexico

Running the Mints

All mines belonged to the king. But the ground above it could be privately owned. To get silver from the ore, they mixed it with mercury, copper sulfate, salt, powdered iron and water, then heated it up. They drained off the liquid and heated the residual to distill the remaining mercury.

Every two years in the early days a "Flota" (fleet) arrived with goods and mercury to refine the silver. The Spanish mercury came from mines in Almadén. The Crown could tell roughly how much silver they were refining in New Spain by how much mercury they used. Every 100 marks of silver (23Kg) needed 45 Kg of mercury. However, when Potosí started up they used their own, recently discovered, mercury mines close-by in Huancavelica in the Peruvian Andes. In 1635, Potosí silver production ran low because of insufficient local mercury, so Spain diverted mercury shipments to Potosí. This cut Mexican silver production.

After refining, the Spanish cast the silver into 60 lb. bars (120 marks) and delivered them to the mint. There they took 20% for the quinto real.

In just three years, from 1576 to 1579, historians have estimated the Indian population of two million halved from an epidemic. Viceroy de Ribera then allowed Indians to become free wage laborers, which markedly increased production. To further stimulate miners, the Crown reduced the quinto to a diezmo (10%).

The top three positions in the mints were treasurer, assayer and weigh master. However, everyone got a piece of the action depending on how many coins they produced. A typical team of coiners made about one coin a minute. They cut the planchets using shears fixed to tables, so they could put their weight on the shear to exert maximum force.

To get the Mexico mint going in 1536, the King donated 1,000 marks of silver derived from his quinto. In 1536 silver fineness was 93.1%, but in 1729 they changed to 91.6%. There were many mines around Mexico City, the names of which modern Mexico collectors are familiar with — like Zacatecas, Guanajuato, Sombrerete and San Luis Potosí.

Types of Mexico City cobs

Sedwick lists cobs by assayer and King. The early cobs of Philip II tended to be round, though less well struck than the Carlos and Juana precobs. As production increased, fabric gradually deteriorated. Menzel shows pictures of many denominations for each assayer. He breaks them down into types, for the positions of the Mexico City mint mark, assayer marks and denomination marks.

Presentation pieces

Two types of presentation pieces exist, the royal and the heart, both struck in all denominations. Mints struck royals on specially prepared wider, round and flat planchets. They struck them fully with all details. They gave them to dignitaries, Viceroys, and the King. I show a royal opposite.

Hearts are similar but on specially prepared heart shaped planchets, which were often (but not always) struck with medal alignment. One of the most widely practiced Catholic devotions focuses on the Most Sacred Heart of Jesus. The Roman Catholic Church awarded these to scholars and monks as a reward for excellence. They have no relationship to romantic love.



1818

Potosi Bolivia 8 Reales Royal 1670 E, Antonio de Elgueta. Sed-P37 b; 40mm, 26.74 Grams VF+

Potosí made silver hearts and royals. The Mexico and Lima mints struck silver and gold royals. Potosí mint workers struck other shapes (often animals) for private use, presumably as jewelry.

Half Reales

One, two, four and eight reales cobs all used the same discussed devices. But half reales used different devices. The first Mexico half-real used K I for KAROLVS ET IOHANA.



Early Assayer P Carlos & Juana 1/2 real.
#1618



The Gothic letter K can look like an "R" (left), so it is possible engravers continued to use this letter for the half reales after Carlos died. Menzel says they used the R to stand for Rey (King). But the letters were RI (see above right) so what was the I for? If it were the king's signature, Jo El Rey, they initials would be IER or IR not RI.

In any case, in 1621, Philip IV Mexican half reales changed obverses to the King's monogram. Each mint had a distinct style for each monogram. Other mints changed at different dates. I show an example on the right.



Lima Early half real. #1464



Philip II half-real cob Lima Mint. Assayer Diego de La Torre 1577-1588. Courtesy of Heritage auctions, HA.com

Cuartillos (Quarter Reales)

1. **Mexico City.** Indigenous Mexicans threw vast quantities of cuartillos into Lake Texcoco. Today only about ten Mexico City Carlos and Juana cuartillos exist. The last and only known late assayer cuartillo was 1553 (Pedro de Salcedo).
2. **Lima.** Early Lima cuartillos (below) show an R on the obverse and I on reverse with the assayer mark R for Rincón (1568-1570). Later types by assayer D for Diego de la Torre (1577-1587 and 1592), show castle obverses and lion reverses. Menzel lists many types depending on placement of the mintmark (P for Peru), Assayer initial D, and Star of Bethlehem.



Early Lima Cuartillo.

3. **La Plata/Potosí** Assayer R (Alonso Rincón, 1573-1576) started off in La Plata for a few months using the mintmark P, then transferred to Potosí using the same mintmark. At present, we cannot be sure which coins were made in La Plata and which in Potosí. Later assayers M (uncertain), L (uncertain) and B (Juan Ballesteros Narváez 1578-1580) also made cuartillos.
4. **Bogotá** silver is rare, and cuartillos even rarer, but were coppery billon not silver. They show an obverse shield and reverse crowned pillars under assayer T in 1627.

Type Collection of Silver 8 Reales by Mint

Mexico City Mint.

The earliest Mexico City Mint cobs are Bernardo de Oñate (Assayer O). He was the last assayer of the late Mexico precobs and continued at the Mint producing cobs. They struck early specimens well on round planchets. He assayed from 1571 to 1578. Luis de Oñate (possibly Bernardo's son) assayed from 1578 to 1589. On the next pages are an O assayer 8 reales and 4 reales, two more undated cobs, a dated cob then a klippe. I will explain these later.

Philip II died in 1598. His son Philip III took over until 1621. Starting in 1607, his Mexico City Mint cobs showed dates. For Mexico City cobs, a major subdivision is undated (1571-1607) versus dated (1607-1734).

Philip III was a weak king. He married his cousin, Margaret of Austria, sister of Ferdinand II, Holy Roman Emperor. Philip's facies have some Habsburg characteristics — his thick lower lip, also his long nose, slightly protuberant jaw, and droopy lower outer eyelids:



Philip III of Spain, ca. 1617.

They called him "the miserable monarch," whose "only virtue was the absence of vice". Reigning 1598-1621, he unfortunately relied on the Duke of Lerma, a corrupt chief minister. Although the Spanish Empire was at its height, creditors consumed much of its income.



2506

First Collectible Mexico Crown. Bernardo de Oñate Assayer 1571-8 Sed-M ii; 39mm, 27.25 Grams VF+



594

Mexico 4 Reales. Philip II Assayer Bernardo de Oñate. 1571-89 Sed-M 11; 32mm, 13.66 Grams XF



2505

Mexico 8 Reales. Francisco de Morales Assayer 1598-1606 Philip III. Sed-M 12a; 40mm, 27.03 Grams XF



362

Mexico 8 Reales. 1600s. Chop Mark Sed-M 15-21; 42mm, 26.94 Grams F



1059

Vliegenthart Wreck 1735 off Zeeland. Mexico 8 Reales 1731 Francisco de la Peña Flores. Sed-M-26; 35mm, 26.45 Grams VF



564

Hollandia Wreck off Scilly Isles 1743. Mexico 8 Reales Klippe 1733 MF. Sed-M27;; 38mm, 25.04 Grams VF+

Protestant Bohemians revolted against Catholic Habsburg rule in 1618 starting the Thirty Years War (1618-1648) during Philip III's reign (1598-1621). England, Protestant German states and Holland fought the Catholic Habsburgs. The war killed eight million people! At the time, populations were: Spain 8 million, Habsburg Empire 5.5 million, Dutch Republic 1.5 million, France 20 million and England 6 million. Ending with the Peace of Westphalia in 1648, Bourbon France curtailed Habsburg ambition and recognized the Protestant Dutch Republic, ushering in Holland's golden age.

In 1620 Philip III authorized the Colombian Mints: Santa Fe de Bogotá and Cartagena. They were the first to strike gold cobs.

The previous six Mexico cobs shown are:

- First cob assayer Oñate 8 reales (Arabic numeral).
- First cob assayer Oñate 4 reales (Roman numeral).
- Second Mexico cob assayer Morales 8 reales.
- The fourth cob does not look like much. But it has a special place in numismatics for me. I saw this item in an early ANA auction in 1991. I showed it to Robert Hoge, the then ANA curator, and asked him what it was.

  Looking it over, he suddenly brightened up. The silver, he said, came from Mexico where they minted it in the early 1600s at the Mexico City Mint. It then boarded a ship at Acapulco, sailing to the Philippines in the Manila Galleons. From there merchants exchanged it for goods from China, like silk, porcelain, ivory and jade. There, a merchant put a chop mark on it to certify that it was good silver. It saw circulation for many decades. Then it got buried it in a pot in China, which someone unearthed in the 1920s.

  I was dumbfounded! How could you tell all that from looking at a coin!

  Bob continued: the reverse cross is the type only used on Mexican silver cobs. It has a chop mark meaning it traveled to China. The only way to get there was on the Manila Galleons, which left from Acapulco. Surface discoloration suggested a ground find, and he knew of a large pot of Mexican cobs discovered in China in the 1920s and presumed this was one of them!

  Wow! Sherlock Holmes at work! I got the coin for $30. But the lesson was much more valuable: education trumps all!

- The fifth cob is a dated Mexico cob from the 1735 Vliegenthart shipwreck.
- The final "cob," is really a klippe, which is different from a cob as it is rolled flat (preceding page). Like the cob the planchet is clipped to irregular dimensions until the correct weight, then struck. The shield obverse and cross reverse designs remain the same. In 1732 milled coinage started with the Mexican pillar dollars. Klippes persisted until 1734 — the last gasp of Mexican cobs.

Mexico Cob Assayers after Carlos & Juana. Undated before 1607. Dated after 1607.

- **O 1571?-1578? Bernardo de Oñate**
- **O 1578-1589 Luis de Oñate (son)**
- **oF then F then FoD 1589-1599 Francisco de Morales**
- **F 1599-1608 Francisco de Morales**
- **A 1608-1609 Antonio de Morales**
- **F 1610-1617 Francisco de Morales**
- **D 1618-1634 Unknown**
- **P 1634-1666 Pedro Bezerra**
- **G 1666-1677 Gerónimo Bezerra, brother of Pedro**
- **L 1677-1705 Manuel de León**
- **J 1705-1724 José de León**
- **D 1724-1728 Monastery of the Holy Desert of Mount Carmel (Santo Desierto del Monte Carmelo), which had inherited ownership of the office of assayer when Gerónimo Bezerra died in 1677 but leased it out to assayer L and J in the interim**
- **R 1729-1730 José de Rivas Angulo**
- **G 1730 Diego Gonzaléz de la Cueva**
- **F 1730-1733 Francisco de la Peña Flores**
- **MF 1733-1734 Manuel de Léon & Francisco de la Peña Flores**

Yellow background means these assayers also assayed gold. Proctor has found archival information in Mexico City within the past few years documenting Mexico assayers.

Opposite is an unusually well struck 8 escudo Mexico City gold cob using a simplified shield. Note the "business end" of the cob (from 8 to 11 o'clock). It shows the mint, assayer and date.

As well as collecting by assayer, you can also collect by over assayer marks (Menzel lists 12). Also, a change in king during an assayer period creates a new type.



2010

Mexico City 8 Escudos 1714 J for José Eustaquio de León. From 1715 Fleet. Sed-M-30; 31mm, 27.09 Grams AU



1476

Lima 8 Reales Diego de la Torre 1577-1587 and 1592. *8 to Left. PoD to Right. Sed-L4; 39mm, 27.41 Grams VF+

Santo Domingo Cobs

I have already listed Santo Domingo precobs in the last chapter. The mint issued one 4 reales shield cob in 1578. It is so rare that Krause shows only a line drawing and lists no price.

Lima Early Period Shield Cobs

The first Lima coins, from 1568 to 1571, were precobs, like the Carlos and Juana precobs. However, the legend read Philip II, not Carolus et Iohana. I showed these in the last chapter. Lima's precob mintmark is P for Peru, when the Viceroyalty of Peru had only one mint.

The Lima precobs included what for many years people thought were the first Spanish American crown (8 reales). Krause says one sold in 1988 for $120,000! However the Carlos and Juana 8 reales superseded these as the first Spanish American crown. Why the high price? Not only rarity but also the centuries-old tradition of collecting crown-sized silver coins.

Lima used a P and a star for a mintmark when they switched to shield cobs in 1572 with assayer X. Assayer X cobs are extremely rare and unknown in 8 reales. Diego de la Torre (1577-1587, and 1592) shield cobs are much more common and the first collectible shield Lima cob. His coins are often well struck on full round planchets (I show one opposite).

The La Plata mint started in 1573 and moved within weeks to Potosí. They also used the mintmark P. The Lima Mint closed in 1592.

When Lima re-opened in 1659 they used L*M then L as a mintmark.

To the right of the shield on the coin opposite is P (obscured) oD for Peru and Diego. To the left of the shield is a star above the denomination 8. Menzel lists 10 different types of this coin!

Type I *oVIII — PoD
Type II *oD — PoVIII
Type III *oD — Po8
Type IV *8 — PoD (shown opposite)
Type V P8 — *oD
Type VI *P — oD8
Type VII 8P — oD*
Type VIII *oD — VIII P
Type IX PoD — VIII
Type X *P — Gothic R o

The Lima Mint's early years

The name Lima derived from Limaq, a Quechua name for a local oracle. Francisco Pizarro founded Lima in 1535. In 1544, the King created a second Viceroyalty called Peru, with Lima as its capital. They tore down the oracle and substituted a church.



Founding of Lima in 1535.

Plata corriente circulated freely. Pizarro's brother, Gonzalo Pizarro, authorized plata corriente stamped with his initials, GP. But lead adulteration frustrated settlers who agitated for a mint.

In 1545 the Spanish discovered Cerro Rico (rich hill) in Potosí. In 1556 the Spanish introduced the mercury amalgamation process to refine silver. Philip II issued decrees in 1565 and 1567, authorizing a mint at Lima, which opened in 1568 minting the precobs. Authorization specified 10,000 marks of silver a year (i.e., 2.3 tons, 80,000 pesos, or 640,000 reales).

The Spanish gave Lima the name Ciudad de los Reyes (City of Kings) because the founding date (6 January) was the date of the feast of the Epiphany. Epiphany eve is the twelfth night after Christmas when most Christians take down their Christmas decorations. Epiphany celebrated the visit of the Magi, or three kings bearing gifts, acknowledging the Christian belief that Jesus was God incarnate. The three wise men, or Magi, saw the Star of Bethlehem in the sky which guided them to his location (those were the days before GPS)!



1861

Star of Lima 1659 8 Reales. Francisco de Villegas Assayer. Sed-L5; 35mm, 27.22 Grams VF+

Alonso del Rincón, possibly the much younger brother of the first Mexico City Mint Assayer Francisco #1, worked as a die sinker there in 1544. Francisco #1 assayed there in 1536 and returned to Spain by 1544. Assayers were the number two position in the mint — not the sort of thing a twenty-year-old would manage. If Alonso was in his twenties in 1544 in Mexico, he would have been 44-54 at Lima in 1568, and 55-65 when he finished at La Plata/Potosí in 1576. Most nobles then died in their 50s.

Despite an authorized 80,000 pesos a year at Lima, Alonso Rincón commented that during his tenure (1568-1570), he only coined 60,000 pesos (a peso is 8 reales). In 1569, 10% of Lima coins were underweight. The next year Peruvian Viceroy, Francisco de Toledo, investigated the mint's treasurer, Lope de Mendaña Osorio, for fraud. But Lima was short of coins. So, in 1570 Viceroy Toledo simply replaced Rincón with Xinés Martínez as assayer for the precobs.



Peruvian Viceroy Francisco de Toledo

Philip II issued a decree in 1570 to change precobs to the shield design. The mint then closed until new die punches arrived for the diesinker Antonio de Bobadilla. When they received the dies in 1572, the Mint re-opened and they issued shield coinage for one year only under Martínez as assayer (see page 238 for a list).

Viceroy Toledo knew that most of the silver came from Potosí 13,343 feet up in the Andes, and thirteen hundred miles from Lima. Within months of reopening in 1572, he closed the Lima Mint and transferred operations to La Plata (now Sucre, Bolivia — elevation 9,219 feet). But even La Plata was 100 miles along mountain roads from Potosí, and within a few months they transferred all operations to Potosí itself.

In 1577, Viceroy Toledo reopened the Lima Mint responding to coin shortages in Lima. Alonso del Rincón had been transferred to the La Plata/Potosí mints. For unknown reasons, they passed over Martínez, who had become weigh master at the treasury office there. Diego de la Torre became smelter and assayer. He was the first to put the Star of Bethlehem on his coins, which Rincón and Martínez had not. This differentiated them from La Plata/Potosí who also used the P mintmark. Lima shield coinage continued from 1577 to 1592.

By 1592, Potosí production had ramped up so much that the Lima Mint became superfluous and it shut down for almost 70 years.

Thus the Lima Mint had three key periods:
- Early precob 1568-1571, shield 1572-1592
- Middle 1659-1660 Star of Lima
- Late 1684-1752 tic-tac-toe

Star of Lima

The middle period we call "Estrellas de Lima" (Star of Lima) coinage because the Star of Bethlehem figured prominently between an L and M for LIMA (see the cob opposite). The Potosí Mint scandal built up gradually starting in the 1620s. Traders around the world knew about it and called Potosí cobs "Peruvians" instead of "piece of eight" to differentiate the two. They knew "Peruvians" were low weight and fineness.

Starting in the 1630s, Potosí treasury records became inaccurate. Potosí Mint officials and politicians participated in the debasement and falsification of coin weights. In 1647 the Spanish Royal Council of the Indies appointed the former inquisitor, Dr. Franco de Nestares Marín, to investigate. Leaving Spain in 1648, a six-month journey took him to Potosi. Starting his investigations in 1649, he dismissed many officials and hanged several. Spain decreed a new design for non-Mexican silver cobs.

The new design was the pillar design for Lima and the Columbian mints. The obverse of the Star of Lima 8 reales opposite shows a vertical •8•V each side of two pillars. Between the pillars is a line above which is L * M and below which is 1659, over the waves.

The reverse shows a Greek Cross quartering castles and lions, surrounded by 8-lobed tressure (double lines around). The legend, most of which is usually unreadable, surrounds a circle

of pellets. Though the Peruvian Viceroy, Alba de Liste, knew of the Potosí Mint disaster, Lima 8 reales weights also ran as low as 24.6 grams. They should be 27.5 grams (perhaps one gram under would be acceptable).



Alba de Liste, Peruvian Viceroy 1653-1661.

For decades, Lima knew Potosí was fiddling the books. In 1650 King Philip IV appointed Don Luis Enriquez de Guzmán, Ninth Count of Alba de Liste, and Marquis of Villaflor, Viceroy to New Spain. De Liste established two tribunals to oversee and collect taxes. Philip was so pleased with the extra taxes he made him Viceroy of Peru in 1653. He arrived in Lima in 1657. In December 1658 he ordered the Lima Mint to reopen to augment dwindling outputs from Potosí. The shield design was unthinkable.



Philip IV of Spain ca. 1631-1632 aged ~26

Royal proclamations in 1650 and 1651 had already decreed changing all Peruvian shield designs to pillar designs. From January 1659 to April 1660, Lima struck 2.7 million pesos of unauthorized Star of Lima cobs. Francisco Villegas used his initial V for the assay mark on the cobs. By contrast, Potosí produced 8 million pesos over three years from 1655 to 1658.

Sedwick lists three types of Star of Lima:
IA: LIMA •V• — •8•
IB: LIMA •8•V — •8•V
II: L* M 8•V• — 8•V• (coin on page 154)

Menzel lists two types of obverse. Type I has L * M. Type II has LIMA with a star above. He lists subtypes of each according to pellet placement. The coin on page 154 is Type Id.

But King Philip was not amused! He did not view initiative positively. Indeed, he would rather be millions of pesos short than have someone open a mint he had not authorized! He sent a special envoy to reprimand de Liste, close the mint, and destroy all mint tools and dies! The Lima Mint remained closed for 24 years.

Philip IV became king aged 16 and ruled from 1621 to 1665. Although the Spanish Empire was huge, it was declining. As a financial incompetent, Philip accelerated their decline. His first wife died childless and Philip married his niece Maria Anna. In those days, people did not know inbreeding caused problems.

A brief look at his picture opposite shows his protuberant, fleshy, lower lip, sagging lower eyelids, long nose with proboscis like tip and protuberant lower jaw. Having married his niece, his son was destined for a life of total misery.

Philip spent much of his reign embroiled in the Thirty Years War (1618-1648). Like so much of European history, it was Catholics versus Protestants all over again.

The war started in 1618 with the rigid reign of Holy Roman Emperor, Ferdinand II of Bohemia. Bohemian Protestants in Prague threw Ferdinand's representatives out of the window ("The Defenestrations of Prague") and elected a Protestant King. The enraged Catholic League then crushed the Bohemian Protestants. Denmark and Sweden entered the war to support the Protestants. Bourbon France, though Catholic, wanted to decrease Catholic Habsburg power, so initially supported Sweden. But, after Swedish King Gustavus Adolphus died in battle, France fought with the Habsburgs.

The war ended with the Peace of Westphalia, with the rise of Bourbon France, Sweden and Protestant Holland, and loss of Habsburg power.



Philip spoke Spanish, French and Italian, and took many mistresses. Count-Duke Olivares, 18 years Philip's senior, became his personal advisor from the age of ten, and prime minister from 1621 to 1643 during the Thirty Years War. Olivares injected Spain into foreign wars, including trying to take back Protestant Holland. To support wars, Spanish taxes became oppressive, leading to revolts in Catalonia and Portugal.

The Thirty Years War foreshadowed the Great War for Empire, a series of European dynastic wars from 1688 to 1815. The Great War for Empire started with a struggle between the French Bourbons and the Habsburgs. It ended in a battle between France's Napoleon and a coalition of Protestant Northern Europeans (England, German States and Holland).

Lima Tic-tac-toe Cobs

By the late 1600s, the Viceroyalty of Peru diversified their economy. Initially based on Potosí silver, they now took part in more local and Pacific trade. They had grown a market economy including agriculture.

In 1683, King Charles II issued a decree to reopen the Lima Mint. The Crown was always short of taxes. Anything that increased silver shipments was a boon. The mint reopened in 1684 and continued minting cobs until 1752.

The Potosí Mint scandal meant that after 1652 Peruvian Viceroyalty mints had to use pillar and waves devices rather than a shield. Lima and Potosí switched to the tic-tac-toe design. The Colombian mints switched to a pillar design without the two horizontal lines.

Dan Sedwick labels four pillar designs:
Type 1 — precobs without waves
Type 2 — precobs with waves
Type 3 — tic-tac-toe
Type 4 — pillar design e.g. Star of Lima.
I prefer: precobs, pillars and tic-tac-toe.

The 2 reales cob above shows an obverse Cross Potent quartering castles and lions. At the end of each limb is important information. North is the denomination (2), east is the assayer (R), south is the year (706), and west is the mint (L for Lima), all duplicated on the reverse. In the 1600s, the last two digits were enough. In the 1700s, they used the last three digits.



1592

Lima 8 Reales Miguel de Rojas Paramo Assayer, 1686. Sed-L7; 37 x 41mm, 27.16 Grams F+

Another tic-tac-toe cob (left) shows the obverse with 8, R, 86 and L at the ends of the cross potent. The reverse design shows the same information at each corner or the tic-tac-toe. Top right and bottom left is the assayer (R), top left and bottom right is the mint (L). At top is the denomination 8 (not struck up) for eight reales, and at bottom is the date 86 for 1686. Between the two lines is PLVSVLTRA. Legends are usually poorly struck except on royals. But both this 8 reales and the 2 reales on the last page show the date, denomination and assayer clearly.

The other tic-tac-toe mint is Potosí after 1652. On the reverse, the waves go down under the date on Lima coins but rise up at the date on Potosí coins. The mnemonic to remember this is: Potosí is on top of a mountain, but Lima is down by the sea.

Philip IV died in 1665. His only son was Charles II, who became king aged four until his death aged 38 in 1700. He was the tragic end of the inbred Habsburgs.



King Charles II ruled 1665 to 1700.

From the moment he was born, everyone waited for him to die. They called him "El Hechizado" — the bewitched.

Physicians hypothesize that he also had an under-active pituitary gland. The pituitary is needed for testicular development. When he died, he had only one small testicle. Though early in life he may have suffered from premature ejaculation, he would almost certainly have been impotent later in life, as well as infertile, dying childless.

Others say he had neonatal herpes encephalitis, resulting in hydrocephalus (water on the brain) which caused epilepsy. This caused his high forehead and "sunset" eyes. In addition, he likely had renal tubular acidosis which causes rickets and kidney stones. He only learned to speak at four and was prone to illnesses. His portrait (below left) shows severe Habsburg jaw and hydrocephalus. His lower jaw overbite prevented him from biting and chewing food, and he lived on a liquid diet.

Charles II was four-years-old when he became king. His mother Queen Mariana of Austria acted as regent for much of his reign. Despite enormous wealth from the New World, Spain had lived beyond its means for generations. Philip IV had started the tradition of a personal minister in 1621. Mariana chose her Austrian personal confessor Father Juan Everardo Nithard as personal minister. When Charles attained the legal age of 14, in 1665, the regency ceased. But two years later the court reinstated the regency based on his health.

Mariana had a power struggle with Charles' illegitimate half-brother, John of Austria, who constantly tried to undermine her, asserting that women could not wield power. He finally succeeded in 1678 and took over the government but he died the next year. Mariana resumed the regency with decreased powers until she died in 1696. From then on, although Charles ruled in his own name, his second wife acted for him until he died in 1700.

He was granduncle to Philip Bourbon of Anjou, whom he named as his successor as he was childless.

The French Bourbons were also Catholic. But it was a foregone conclusion that Protestants would find a unified Catholic France and Spain too powerful a force in Europe. It was déjà vu all over again! The 13-year War of Spanish Succession ensued. Royalty had little interest in the common man — about one million people died in the war. It was more important to support Catholicism. The war ended with the Treaty of Utrecht, which forbade unifying the Spanish and French crowns. Thus, they hoped to preserve the European balance of power.



2069

8 Escudos Lima Cob 1712 ? Melgarejo Assayer. Sed-L28;



Ex 1715 Fleet. 32mm, 26.90 Grams AU Encrustations

Lima Gold Cobs

Lima made pillar Star of Lima gold cobs in 1659-1660. However, only two 8 escudo cobs are known, both in the Banco de España in Madrid. Conveniently, one is 1659 and one is 1660 (actually 1660/1659). The coins show a crowned shield flanked by pillars with stars over them. On the left is L over 8, on the right is V over 8.

However, none of the design elements match any known design elements on silver Lima cobs. This raises the suspicion that these are fantasies or designed by a different engraver. Mint records show striking of 1 and 8 escudo cobs from September 1659 to April 1660.

The Mint opened again in 1684, this time with the Charles II's permission. They started with silver in 1684, and with gold in 1696. Lima gold used the tic-tac-toe design they had used on Lima silver cobs since reopening in 1684.

On the previous page is the iconic Lima gold doubloon. If I could only own one cob, this would be it! The castles look like frowning face emojis (☹)! All major devices show. The peripheral legends are (PH)ILIPVS.V.DG HISPAN… ET YNDIARVM (R)E(X).ANO 712. This would likely only show completely on a royal. The obverse shows encrustations from sea burial with the 1715 Fleet. Technically the tic-tac-toe side is the reverse, but to me is so iconic that I show it on the left.

Late Lima Cob Assayer List

- **V 1684-5, 1689-90, 1692-3 Juan de Villegas**
- **R 1685-8, 1690-1 Miguel de Rojas Páramo**
- **M 1694, 1709, 1711-27 Félix Cristóbal Cano Melgarejo**
- **R 1695, 1699 Miguel de Rojas son of Páramo**
- **H 1696-8, 1700-5, 1707-8, 1710 Francisco Hurtado**
- **R 1706 Leonardo de Rojas grandson of Páramo**
- **N 1728-40 Joaquín Negrón y Colmenares**
- **V 1739-49 José de Vargas y Flor**
- **R 1749-52 José Rodríguez de Carassa**

Assayers outlined in yellow assayed gold cobs also.

Ways of collecting cobs

- One of each assayer for a particular mint. Often a daunting prospect.
- Date set of cobs from one mint — even more daunting!
- Type set of one denomination of cob from each mint. Many prefer to collect 8 reales cobs as these are the largest.
- Denomination set of any mint or assayer
- Gold cobs, one from each mint. Cuzco and Cartagena did not make 8 escudo cobs, so are usually collected as 2 escudos.
- Denomination set of gold cobs
- Shipwreck cobs one from each shipwreck
- Type set of cobs from each mint including pillar and wave, shield and tic-tac-toe types.
- Specialize in one area e.g. counter marked Potosí cobs, transitional Potosí cobs.
- One cob from each monarch's reign.
- Collect royals and hearts only — very expensive!
- Collect strange shaped cobs

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Calico F. and X., and Trigo, J. *Numismatica Española.* Barcelona, Spain 2019.

Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks.* EN RADA publications, West Palm Beach, FL 2003.

Downing, C.S., *The Charles and Joanna Silver Coinage of Santo Domingo, 1542-1552.* Daniel Frank Sedwick Treasure auction #14 October 30, 2013. pp99-103.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Menzel, S., *Cobs, Pieces of Eight and Treasure Coins. The Early Spanish-American Mints and Their Coinages 1536-1773.* ANS, NY, NY 2004.

Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.

Opitz, C.J., An *Ethnographic Study of traditional Money*. First Impressions Printing. 2001.

Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.

Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.

Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?*).Numismatics International bulletinVolume 50. Nos. 1/2. January/February 2015. Dallas, Texas.

Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL.

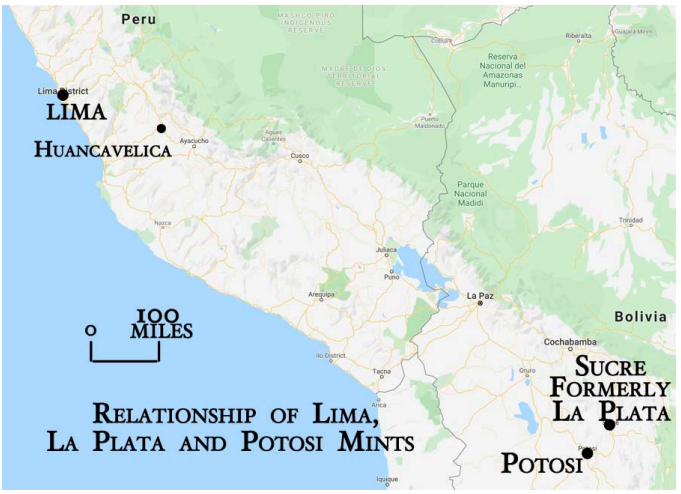
https://en.wikipedia.org/wiki/Philip_III_of_Spain#/media/File:Andres_López_001.jpg

https://en.wikipedia.org/wiki/Lima#/media/File:Lima_foundation.jpghttps://en.wikipedia.org/wiki/Luis_Enr%C3%ADquez_de_Guzmán,_9th_Count_of_Alba_de_Liste#/media/File:EnriquezdeGuzman,condedeAlbadeAliste.jpg from 1655-1658

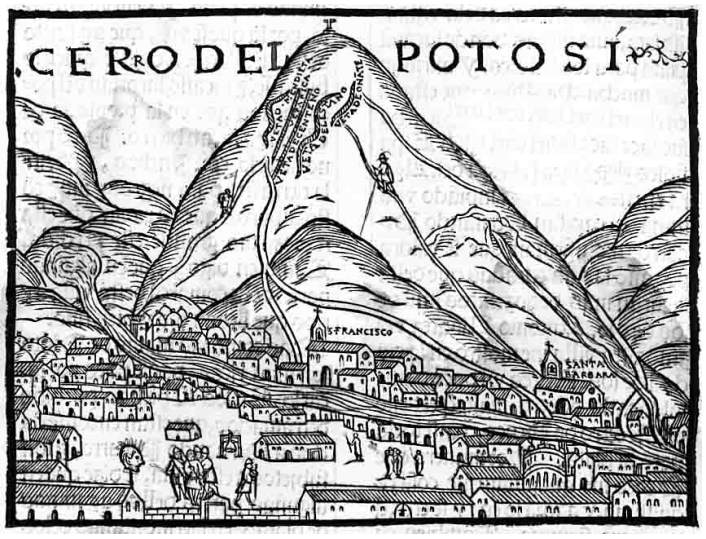
CHAPTER SEVEN
TYPE COLLECTION OF SPANISH COLONIAL COBS
LA PLATA & POTOSÍ

Potosí Mint

In 1545 a Spaniard, Juan de Villarroel, had an Indian named Diego Hualpa working for him who discovered silver in Cerro Rico, a volcanic dome. The hill rose 17,000 feet into the clouds.



Within a year the town of Potosí mushroomed as miners and speculators flocked there. Even at the base (elevation 13,343 feet), mountain sickness was common and the air very thin. By day, temperatures reached into the 50s and 60s, but at night they often fell to freezing. The Council of the Indies decided to locate an Audiencia in La Plata (now Sucre, see map above). There, daytime temperatures rose to the low 70s with night time temperatures in the 40s.



Drawing of Potosí and Cerro Rico 1553

Anyone, Indians and blacks included, could mine Cerro Rico as long as they paid the quinto real, which netted the king 1.5 million silver pesos yearly. Mines and tunnels laced the mountain. Owners had to register a claim within 30 days. If left unattended for more than a year, the Crown considered their mine abandoned and seized it.



Cerro Rico in background on a Potosí Street today.

Most of the mine owners were Spanish; most of the mine workers were Indians. Life was hard for them. They chewed coca leaves to make them oblivious to the mountain sickness, the cold, and the exhaustion of climbing up the mountain at such high elevations.

Founded in 1545, Potosí was the first real New World City. By 1572 they had a population of 120,000, exceeding London and Paris. Sucre (formerly La Plata) and La Paz are today co-capitals of Bolivia. The railroad from La Paz to Potosí crosses the third highest rail pass in the World, the Condor Pass, at 15,700 feet and the western hemisphere's highest station. Ticlio pass in Peru is 100 feet higher. In 2006 China opened a rail pass in Tibet at 16,627 feet elevation.

For millennia, Europe had the largest silver mines. But from the mid 1500s to 1800 New World mines produced 3 to 3.5 billion ounces of silver, or 100,000 tons! Potosí was by far the largest mine. Between 1500 and 1550, the quantity of silver and gold in Europe trebled.

Annual New World output was ten times that of the rest of the world. But 60% of silver flowing into Spain immediately left to pay debts of the profligate monarchy. Most of their silver flowed to England and Holland. This led to English and Dutch commerce, mercantilism and colonization. They, not the Spanish, would control world business.

Increased availability of silver led to:
- inflation
- an expanded middle class
- a monetary not a barter economy
- money, not land, became the basis of wealth
- undermining of Islamic power, because Europe became the international market system instead of the Middle East.

Of Inca miners, 80% died within their first year of labor. They had to climb up a system of ladders with 50 lb. sacks of silver ore on their backs. Falls were frequent and fatal. Incas called them the "man-eating mines of Potosí."

Smelting at high altitudes was inefficient because of insufficient oxygen for red-hot fires. The Incas used guayras, or wind ovens, until Bartolomé de Medina discovered the mercury amalgamation process in 1554 in Mexico. But guayras could only smelt oxide ores (not deeper sulfide ores). From 1545, they burnt continuously until they introduced amalgamation extraction in Potosí in 1573. Potosí silver production then increased from 25,000 to 80,000 marks of silver a year.

They transported mercury from Spain to Mexico until, in 1572, they discovered mercury mines at Huancavelica (see map on the previous page). The Incas called them, "The mine of death." But the amalgamation process extracted silver more efficiently. They could even reprocess their tailings to extract more silver. However, many enslaved Incas died from mercury poisoning.

To prevent theft, the Casa de la Moneda in Potosí used special trunks with multiple keys to open them. But theft was still commonplace.

In many ways the New World was the key to later European industrialization. More available money led to finance, which in turn led to development. A host of other discoveries flowed from the New World, including cotton, dyes, gold, rubber, quinine and potatoes. The Spanish were too busy transporting silver around the world to bother much about business. Consequently, the English and Dutch took over the expanding slave trade.



Potosí Mint today

As mentioned in the last chapter, the early period Lima Mint output started with precobs from 1568 to 1571. Alonso de Rincón was assayer 1568-1570.

Philip II issued a decree in 1570 to change over to the shield design. The Lima mint closed until the new die punches arrived. When they received the dies in 1572, the mint re-opened for one year, striking shield coinage under Martínez as assayer.

But Viceroy Toledo (pictured opposite) knew that most of the silver came from Cerro Rico (rich mountain) in Potosí 13,343 feet up in the Andes, and 1,300 miles from Lima. Within months of the Lima Mint reopening in 1572 he closed it and transferred operations to La Plata (now Sucre, Bolivia — elevation 9,219 feet). He ordered all dies, tools and machinery be sent to La Plata. But Lima officials fought him every inch of the way. They only sent half the supplies, which arrived after a 1,300 mile mule-train journey in September 1573.

The La Plata Audiencia had persuaded Toledo it was 4,000 feet lower with more firewood and coal for smelting, and it was warmer living.

But even La Plata was 100 miles along mountain roads from Potosí. Transportation costs caused a net operating loss. Within a few months, Toledo transferred operations to Potosí.

They call La Plata the city of four names:
- Charcas (Indian) before 1538
- 1538 the Spanish founded it as La Plata
- Independence era 1800-1824 Chuquisaca
- 1824 after the Battle of Ayacucho, Sucre, named after the General who defeated Spain.

All Lima cobs until then had the mintmark P for the Viceroyalty of Peru. When Viceroy Toledo closed the Lima Mint in 1572, the P mintmark continued with the La Plata mint in 1573.



Peruvian Viceroy Francisco Alvarez de Toledo, 1569-1581.

Toledo appointed Alonso de Rincón assayer of La Plata in 1573. By early 1574 they had only struck 2,104 marks of silver (1,000 lbs.) In March 1574 Toledo decided to move the mint to Potosí, keeping Alonso Rincón as assayer. Toledo became involved in details of the Potosí Mint which Alonso Rincón designed. They built reservoirs to catch rainwater, which ran four miles along viaducts to water-driven crushing mills that crushed 20,000 pounds of silver ore a day. A yearly pack train of 2,000 llamas and 1,000 Incas and Spanish escorted 200 tons of silver 600 miles to Arica on the coast. From there the metal traveled to Lima, Panama then Spain.

So how do we know which cobs were struck in La Plata as opposed to Potosí? They had the same mintmark P, and the same assayer mark R. For generations numismatists thought La Plata cobs had P-erasure-C vertically on the left of the shield. My 1998 copy of Calico Trigo shows two 8 reales coins (P-erasure-C and P-erasure-CC on the left of the shield) as being from La Plata. Sedwick's First Edition of *The Practical Book of Cobs* in 1987 lists La Plata as assayer C below erased B. His second edition in 1990 says, "Impossible to distinguish from earliest Potosí." Rincón was the only assayer of La Plata. We now feel C assayer is ca. 1580 in Potosí. His name is unknown. Presumably Dr. E. A. Sellschopp, who made this attribution thought assayer C erased the R assayer mark and placed his below it. I show this famous P-erasure-C 8 reales cob on the next page.

Barry Stallard did die studies to identify La Plata coins. He took all known dies of Lima in 1572 (assayer X, of which no 8 reales are known). He then compared them to R assayer shield Potosí coins. If he came up with a match, he could say Rincón reused that die. He found several partial matches, but only one complete one. That was on a one real cob.

This Lima die had I to the left of the shield and P above X to the right. The identical die Stallard found showed P above R to the left and I to the right of the shield (see below). (Other die markers are long-tongued lions, and a triple struck reverse tressure especially on the lower left.) What I do not understand is why only La Plata could have used this die and not Potosí. The tools and dies sent to La Plata were also sent to Potosí. So it still could have been La Plata or it could have been a Potosí die.



LIMA **LA PLATA**

Potosí Rincón cobs shown in Menzel show P above R to the left 8, 4, 2 and 1 real cobs, and to the right on 4 and 1 reales. On his half reales the R is to the right or left of the monogram.

All Lima assayer X shield cobs have P above X to the right. Sedwick speculates that P above R to the left may have been Rincón's way of starting anew at La Plata. Then when he went to Potosí, he could have placed his P above R back on the right to differentiate them. But this is still a theory.

Shield Potosí cobs from 1574 to 1617 are undated (they include cuartillos with a castle on one side and a lion on the other). From 1617 to 1652 they are dated (they made no dated cuartillos).

After the Rincón assayer mark, sequences are complex. Assayer B (Juan de Ballesteros Narváez) has three different periods between 1576? and 1592. He is interrupted by assayer marks, M, L, C, X and S, all of whose names we do not know, and A (for Juan Alvarez Reinaltes). Sedwick lists differentiating features of cobs from assayer B's three periods. During the second period Ballesteros made some very nice cobs on full round planchets of 40 mm or more called "Great Modules". Module is another word for planchet. I show an example on the







2942

Potosi, Bolivia, 8 Reales Cob Philip II, PBC ca. 1580 Formerly Thought La Plata. Sed-P5; 27.03 Grams, 44mm VF+



2504

Potosi, Shield Cob Assayer B, 2nd Period 1580-1? Great Module. Ded-P 6; 40mm, 27.22 Grams VF

last page. These are often well enough struck that one might compare them to a royal. You can even see the brickwork in the reverse castles!

Undated Potosi shield cob assayers are:

R 1574-6? Alonso del Rincón
M & L 1576?-8? Unknown
B 1578?-86? and 1589-92? Juan Ballesteros
X, S, L, C ?1580 Unknown
A 1586-9 Juan Alvaréz Reinaltes
R, RL 1593?-5?, 1605?-1612 Baltasar Ramos Leceta
B 1596?-1605? Hernando Ballesteros (Juan's brother)
C 1613-1616 Francisco de Calderón
Q 1613-1616 Agustín de la Quadra
M 1616-1617 Juan Sánchez Mejía

The Potosí Mint Scandal

In 1617, Potosí started dating their shield cobs. Soon after, in the 1620s, Potosí cobs underwent slow deterioration in fineness and weight. In 1626, Seville assayers in Spain found some Potosí cobs and bars diluted with 30% copper. Salvaged silver bars from the Atocha wreck (1622) were the last good silver at 90%. Subsequently bars often came from the mint containing 83% silver. There were supposed to be checks and balances, but widespread collusion started among Potosí officials. The mint was like a giant blacksmith shop, with their own jail, prosecutor and laws, but duplicity.

Dated Potosí cobs assayers were:

M 1617 Name uncertain
PAL monogram 1618 Pedro de Palencia
T 1618-22, 1623-4, 1627-8, 1629-39, 1643-48 Juan Ximénez de Tapia
P 1622-3, 1628-9 Name uncertain
P, oP 1624-6 Pedro Martín did Palencia
TR 1636-40, 1643-7, Pedro Treviño
FR 1640-44 Pedro Treviño?
V 1646 Gerónimo Velázquez
P 1646-7 Luis de Peralta
R 1646-8 Felipe Ramírez de Arellano
Z 1647-9 Pedro Zambrano
⊙ 1649-51 Juan Rodríguez de Roas/Rodas/ Ruedas (Spanish for wheel like his mark)
E 1651-2 Antonio de Elgueta

In Spain in the 1620s, they started paying soldiers with Potosí cobs. Merchants started refusing them. Initially, people thought they were counterfeits. But increasingly, Spain became aware of widespread fraud.

The Crown ran the Mint as a franchise. The franchisees rented positions to operators on the take. Dated shield cobs had 19 assayer periods in 35 years. This itself raises a question. Why so many? Were they subletting too?

In the 1630s and 1640s money changers around the world differentiated "pieces of eight" from "Peruvians". They knew Peruvians were problematic. Peruvians were the coins without the Mexican cob cross on the back. Although the mint treasurer was head of the mint, it fell to the assayer to ensure fineness and weights.



Don Luis Gerónimo de Cabrera (Count Chinchón) Peru Viceroy 1629-39.

Viceroy Chinchón's wife was one of the first Europeans to take quinine for a fever and be cured. The diagnosis then was fever, not malaria, syphilis or tuberculosis. But they realized the common fever (malaria) responded to quinine. Chinchón's wife introduced quinine to Europe. They named the cinchona tree (whose bark makes quinine) after her. Chinchón founded two chairs of medicine at the University of San Marcos in Lima, the first university of the Americas, founded in 1551.

So, why, for a whole generation, did nothing happen? Count-Duke Olivares, 18 years King Philip IV's senior, became his personal advisor from the age of ten, and later prime minister from 1621 to 1643. Philip IV ruled 1621-1665. Olivares injected Spain into foreign wars, including trying to take back Protestant Holland. Spanish taxes became oppressive, leading to revolts in Catalonia and Portugal. Olivares focused more on taxation and foreign wars than on mint embezzlement.

Juan de Figueroa was a mafiosi-like figure. A wealthy Lima resident, he actually never set foot in Potosí 1,000 miles away. He relied, like others in this scandal, on systematic bribery, routine intimidation, physical abuse and scapegoating. To rent the Potosí assayer position, he made yearly payments in the 1630s and 1640s to Luis Gerónimo de Cabrera (Count Chinchón and Viceroy to Peru 1629-1639) who acted for the King.



King Philip IV 1621-1665

Figueroa sublet the assayership for a huge profit of 20,000 pesos a year to a series of officials: Tapia (1618 intermittently to 1648), Treviño (1613 intermittently to 1647), Peralta (1646-7), Velázquez (1646), and Zambrano (1647-9).

Perhaps Philip had so much quinto real income from the Potosí Mint, that he looked favorably on Figueroa. After Olivares' fall in 1643, Philip acted on his own. Philip's sister persuaded him to abolish the post of valido or personal advisor. In 1648 King Philip gave Figueroa the position of Potosí assayer in perpetuity for 62,000 pesos (1.7 tons of silver)!

Assayers cheated mostly by certifying the silver as 22/24 (91.6% pure) when they diluted it with 30% or more copper. This had been going for more than a generation. And for a generation, little happened. Sure, Lima officials constantly complained, but no one listened.

In 1639 the Peruvian Viceroy, Pedro de Toledo, First Marquéz de Mancera (right) took over from Chinchón until 1648. In 1641 a report said mint officials were on the take and committing fraud. Three years later, Toledo reported the fraud to the Council of the Indies.



Pedro de Toledo, Viceroy 1639-48

Two years later Philip issued a decree directing that Velázquez (Potosí assayer in 1646) travel to Spain for questioning. Felipe Arellano took over as assayer, but could not afford the 20,000 peso rent to Figueroa. So he embezzled from the Mint and turned a good profit. Hell! Everyone was doing it!

When Spain recalled Velázquez in 1646, Figueroa knew something was up. He was a wily guy, so ordered Arellano be confined. Sure enough, in 1647, the Council of the Indies appointed Dr. Francisco de Nestares Marín as investigator (visitadores). He was a former inquisitor.

The Crown directed Marín to investigate. He arrived in December 1648 after a six-month journey. He had vast powers. His investigation started in early 1649. He found mint officials did not keep accurate records, including of taxes. Other local mines, Oruro, Cuzco and Arequipa did no better. He found the Potosí mint owed the crown 620,000 pesos, and 500,000 pesos in back taxes.

Naturally, town and mint officials were in cahoots and dragged their feet. But Marín was no one's idiot. He fired a Potosí magistrate, and the Mint Treasurer, Bartolomé Hernández, fining him 300,000 pesos. He sentenced two previous treasurers, Xinés de Cervantes, and Miguel Ruíz to death. He fined the Potosí Mayor 500,000 pesos. Then he fined Juan Figueroa, whom the King had just blessed with a lifetime assayership, another 60,000 pesos. He hung Felipe Ramírez de Arellano, and another official, Rocha, in the central plaza of Potosí in December 1649.

He also condemned several silver merchant to death. But they got off through connections. He chased out the assayers Velázquez and Zambrano, and replaced them with Roas. But Roas still made low fineness silver. So Marín replaced him with Antonio Elgueta. Altogether he convicted 42 mint officials and 38 civil officials. Sentences included fines, banishment, imprisonment, beheading and hanging.

Marín recognized Spain compensated lower officials too poorly, so they looked to graft to line their purses. He recommended the Crown increase their salaries to take away this temptation. He also pointed out that the mint's 1.5% tax to mint silver would likely drive the silver merchants out of business, so recommended reducing the tax to 1%. Indeed, Mint records from 1653 to 1668 show the tax fell to 1%.

Marín also recommended that trained professionals take mint positions rather than renting the positions out. Screw that! The King wanted to keep leasing them to get more income for himself. For the king, extra cash trumped Mint security.

In October 1650, Philip IV issued a royal decree devaluing all Potosí cobs minted for the last 25 years. They had to melt all cobs of 2 reales or less (so these are very rare today). The Mint melted or revalued all 8 and 4 reales cobs before 1649 (assayers V, P R and Z) to 4 and 2 reales. They revalued Roas and Elgueta 8 and 4 reales cobs at 7 1/2 and 3 3/4 reales by applying counterstamps. This created a whole collectible area!

Crown Counterstamped Cobs

Sedwick in 2007 listed 20 countermarks (all circular except 13, 18, 19 and 20) :

Common (100+ known)
1. Crown alone
2. Crowned L
3. Crowned •F•

Scarce (20+ known)
4. Shield (lions/castles)
5. Crowned O or o
6. Crowned S or s
7. Crowned •PH•

Rare (10-20 known)
8. Crowned C
9. Crowned G
10. Crowned P or p
11. Crowned T
12. Crowned •T•
13. Crowned 1652 date

Rarest (<10 known)
14. Crown alone
15. Crowned a
16. Crowned A
17. Crowned Z or z
18. Crowned 1605 date
19. BANRE monogram below castle and lion
20. S-sunburst-D

Menzel in 2004 listed 24 countermarks.

Opposite is Assayer Juan Rodríguez de Roas or Rueda. Rueda is Spanish for wheel. His ⊙letter (circle with pellet), is barely seen below the P to the left of the shield. This 8 reales is 7.4% light i.e. 7.4 reales. But existing silver bars were also low fineness, which Roas used for his cobs so Marín replaced him with Elgueta.

The obverse countermark (see opposite) is a crowned F (Sedwick type 3), one of the commonest countermarks. F was a silversmith who experimented with transitional pillar and waves coins which started 1652.

The reverse countermark (see opposite) is a crowned shield of castles and lions (Sedwick Type 4). These countermarks devalued the 8 reales to 7 1/2 reales (6.3% less weight, though silver fineness may be low too).

This coin came from the Capitana wreck off Chanduy, Ecuador. The wreck was the largest loss ever experienced by the Spanish South Seas (Pacific) Fleet, of which the Jesus María de la Limpia Concepción was the Capitana ("captain's ship," or lead vessel) in 1654. Official records reported the loss of 3 million pesos of silver (2,212 ingots, 216 chests of coins, and 22 boxes of wrought silver). But the actual loss was as much as 10 million pesos if you include contraband and private consignments. The ingots answered the question: Why did they not just make silver bars and ship those back to Spain, instead of cobs. They made both because colonial Spain also needed money to function.









1566

Capitana Wreck 1654. Potosi Roas Assayer 8 Reales. Crowned F C/S, Crowned Shield C/S. 42mm, 25.46 Grams VF

By comparison, the entire annual silver production in Peru at that time was only 6-7 million pesos a year! The loss was colossal.

Though obviously overloaded, officials said it sank from pilot error. The pilot thought he had cleared Punta Santa Elena, but had not, and hit reefs. Twenty hands died. For eight years salvors recovered over three million pesos (with probably much more recovered off the record), leaving only an unreachable lower section for divers to find in our time.

The main salvor in the 1650s and early 1660s was the ship's silver master, Bernardo de Campos. And it was his fault in the first place that he overloaded the ship with so much unregistered contraband!

In a triple whammy, the coins they salvaged from the 1654 Capitana were lost again on the 1656 Maravillas wreck. These, in turn, they lost in the wreck of the salvage vessel, Madama do Brasil, off Gorda Cay (Bahamas) in 1657!

Salvors rediscovered the wreck in the mid-1990s and salvaged it (completely, according to some) in 1997. After a 50/50 split with the Ecuadorian government in 1998, investors placed most of their half, of over 5,000 coins recovered, for sale at auction in 1999. Almost exclusively Potosí 8 and 4 reales, the coins were a healthy mix of countermarked issues of 1649-1652, transitional issues of 1652, and post-transitional pillars-and-waves cobs of 1653-1654, many in excellent condition and expertly conserved.

The only coins the Spanish countermarked were assayer O and E, plus the occasional Z in error (because the date was the same as O).

The crown decreed that all 8 reales back to 1625 were to be devalued to 6 reales. Countermarked coins would circulate at 7 1/2 reales (mathematically the same for the 4 reales). The "rochunas" of the 1640s (Velázquez, Peralta, Ramirez, and Zambrano) were to be melted.

Here is a list of what happened to "Peruvians" i.e. low weight low fineness cobs struck at Potosí 1625-1650:

- quarter, half, 1 and 2 reales all melted down
- Velázquez, Peralta, Ramírez and Zambrano, 8 and 4 reales (called "rochunas") were to be melted down
- Tapia and Treviño 8 & 4 reales revalued to 6 & 3 reales
- Rodas & Elgueta (called rodases) 8 & 4 reales counter-marked to 7 1/2 & 3 3/4 reales.

In table form it looks like this:

Init	Dates	Assayer	8 & 4 Reales Value	Cobs called
V	1646	Velázquez	1/2	rochunas
P	1646-47	Peralta	1/2	rochunas
R	1646-48	Ramírez	1/2	rochunas
Z	1647-49	Zambrano	1/2	rochunas
O	1649-51	Roas/Rodas	15/16	rodases
E	1651-52	Elgueta	15/16	rodases

Spain's universally recognized silver trade coin was on the line. Philip IV considered closing the Potosí mint and transferring operations to Lima. But he had a change of heart.

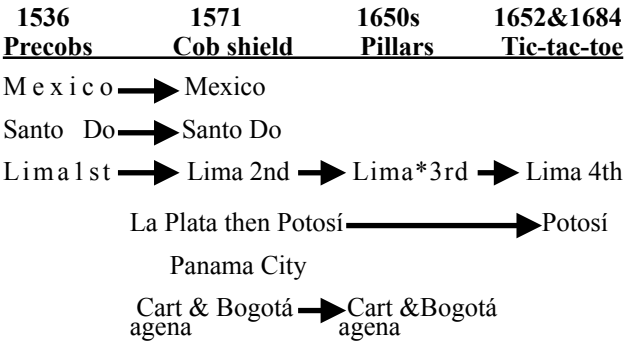


Diagram of sequence of cob types in Spanish America.

Mexico shield cobs were recognizable by their cross design with balls at the end. Panama cobs had ceased production. That left Potosí, Lima and the Colombian mints, all of which had to switch to pillar and waves. Lima switched to plain pillars, then the tic-tac-toe. The Colombian mints switched to a plain pillar design. Potosí switched to the tic-tac-toe design. But first they experimented. We call the experiments transitionals.

McLean Transitional Pillar & Wave Cobs

Philip IV issued decrees in 1650 and 1651 ordering an obverse with a cross potent quartering castles and lions. He specified the reverse show a single crown over two pillars with PLVS VLTRA across, with the denomination, year and assayer clearly visible. No diagrams are known.

In 1652 officials at Potosí took a six-week break while die engravers made new dies, focusing on 8 reales cobs. Torrey McLean, a North Carolina State Registrar, and a Spanish colonial numismatist, classified transitionals' reverses into eight types.

Transitionals had a shield or cross obverse. However, the final transitional — VIII is rarely seen paired with a shield. When paired with a cross, it is de facto post-transitional. Post-transitionals are all married to the quartered cross obverse. Thus the sequence was:

	Obverse	Reverse
Pre-transition	**shield**	**cross**
Transitional I-IV	**shield**	**pillar and waves**
Transitional V	**shield or cross**	**pillar and waves**
Transitional VI	**shield (rare)**	**tic-tac-toe**
Transitional VII	**shield or cross**	**tic-tac-toe**
Transitional VIII	**shield**	**tic-tac-toe**
Post-transitional VIII	**cross**	**tic-tac-toe**

Change over from shield to tic-tac-toe design at Potosí

Minor denominations (below 8 reales) had four transitional reverses. Eight reales pieces had eight reverses. Shield or cross obverses paired with these randomly.

The transitional obverse shield had A above P above 8 on the left and O above E on the right. Previously experts thought the A-O represented Antonio Ovando (assistant assayer), now they believe it stands for ANO (year). P stands for Potosí, E for Elgueta, chief assayer, and 8 for the denomination.

The cross obverse had P for Potosí to the left and E to the right for Elgueta.

The early transitional reverses (I-V) did not have two lines intersecting the pillars to create the famous tic-tac-toe. McLean type VI-VIII had the horizontal lines creating the tic-tac-toe.

Interestingly, types I to VII all had the single crown specified by Philip IV. Only the final version (VIII) used a crown on each pillar.

Sedwick shows a table for the reverse transitionals showing the contents of the top and lower line of the tic-tac-toe (with or without the lines). Above the pillars are dots in types I-V, and HP monograms for Philip IV in VI-VIII. Half reales designs were different because of the lack of real estate (i.e., too small a surface).

The final reverse design (type VIII) had 1•PH•6 above the tic-tac-toe for Philip and the beginning of the date 16…, which continued in the tic-tac-toe in the middle of the lower line.

Overleaf is the Type VIII Elgueta 8 reales cob with a cross obverse (i.e., post-transitional). Notice the 1 PH 6 above the reverse tic-tac-toe. Beside it is the first post transitional coin without the 1 PH 6 above.

The precise details of the eight McLean types are for the super-specialist. I do not collect these, preferring instead to focus on the broad brush. However, this is a listing of 8 reales types:

Type	Obv	Rev	Rev Above pillars	Rev Top Row	Rev bottom Row
I	shield	One Crown Pillar & Wave	dots	F 8 IIII	empty
II	shield	One Crown Pillar & Wave	dots	F 8 IIII	E E
III	shield	One Crown Pillar & Wave	dots	F 8 IIII	E . E
IV	shield	One Crown Pillar & Wave	dots	F 8 IIII	E 8 E
V	shield or cross	One Crown Pillar & Wave	dots	F 8 IIII	E 52 E
VI	shield	One crown tic-tac-toe	.HP.	P 8 E	E 52 E
VII	shield or cross	One crown tic-tac-toe	.HP.	P 8 E	E 52 P
VIII	shield	2 crowns tic-tac-toe	1.PH.6	P 8 E	E 52 P
Post	cross	2 crowns tic-tac-toe	1.PH.6	P 8 E	E 52 P



2503

Potosi 8 Reales 1652 ist Post-Transitional Type VIII / B Elgueta Assayer 1652. Sed--P37a; 41mm, 27.45 Grams VF



1364

Potosi 8 Reales 1653, Antonio de Elgueta Assayer. First Post-Transitional. Sed-P37a; 35x39mm, 27.49 Grams VF

Post Transitional Potosí Cobs

Assayers are:

E 1652-78 Antonio de Elgueta
C 1678-79 Manuel de Cejas
V & VR 1679-97 Pedro de Villar
CH 1697 Sebastián de Chavarría
F 1697-1701 Tomás Fernández de Ocaña
Y 1701-27 Diego de Ybarbouru
M 1728-1732 José de Matienzo
YA 1732-33 Francisco de Yllaña
E 1733-37, 1750-51, Esteban Gutiérrez de Escalante
M 1737-40 Pedro Manrique de Jiménez
P 1740-42 Diego del Pui
C 1742-44 José Carnizer
q 1744-50,1747-50,1751-53,1754-60 Luis de Quintanilla
C 1753-54 José Maria Caballero
q-Y 1760Luis de Quintanilla & Raimundo de Yturríaga
Y-V 1760-1770, 1770-73, Raimundo de Yturríaga & José de Vargas y Flor
V-J 1770, 1772 José de Vargas y Flor

Opposite is an Elgueta Royal from 1670, similar to the cob on the previous page, without the extra line above the tic-tac-toe. This would become the subsequent layout. There are multiple strikes. The obverse shows the cross potent quartering castles and lions. The reverse is the new tic-tac-toe with waves below. Below the date, the waves rise for Potosí "up in the mountains". By contrast, Lima cob waves under the date go down "by the sea".

Royals (see opposite) are round, fully struck cobs on specially prepared flat planchets. Craig (see references) objects to the word "royal" and prefers "presentation piece". Spanish speakers call them "redondos" (round ones) because they are perfectly round. Contemporary Spanish speakers called them "galanos" (handsome, fine-looking). Mint workers struck them with a screw press, not with the usual lead-weighted hammer used for cobs.

The other presentation pieces are hearts. These were often awarded for achievement in monastic orders and schools.

Many fraudsters have cut cobs to a heart shape to trick people. Genuine hearts have the following characteristics:

- correct weight
- all are pierced for suspension
- obverse and reverse are usually medal alignment
- even thickness
- fully struck

Are all underweight cobs fake, or are they 1620-1662 Potosí cobs?

Some grifters would put 30-40 pounds of cobs in a bag and tell a Native American to jump up and down with the bag for a day. They would then extricate the bits of silver that chipped off and burn and melt the bag for its filings. This could reduce the weight of cobs.

Interestingly, Damon Douglas, New Jersey copper expert, and Tony Carlotto, Vermont copper expert both looked at weight loss from circulation. They each found a large cent weight loss of 2.8% and 4.2% respectively, from XF to Good condition. Douglas found a 6.6% weight loss from Uncirculated to Fair. Thus, a coin graded good has only lost 3-4% of its metal. This process is called "peening," the process of relentless hammering of a coin which rearranges rather than removes metal.

Thus underweight cobs may be from:

- Normal silver 8 reales cobs should be 27.5 grams, but up to 1 gram underweight is acceptable.
- Potosí Mint scandal cobs 1620-1652.
- Shaving, can be difficult to detect if old.
- Shaking in a bag, called sweating coins, minor loss like 5%.
- Circulation should only be 3-4% weight loss for XF down to Good.
- Shipwrecked coins can lose significant weight from salt water corrosion.



1818

Potosi Bolivia 8 Reales Royal 1670 E, Antonio de Elgueta. Sed-P37 b; 40mm, 26.74 Grams VF+



The reverse (tic-tac-toe) of the coin opposite shows the 84 clearly, but the upper half of the 8 denomination is obscured between the pillars. The P for Potosí is indistinct at top left, and may just be part of PLVS rather than the mint mark. The P is not struck up at bottom right. Only the lower half of one V shows in the upper right, but a complete V on the left, presumably with an extra blow. The last Potosí cobs were 1773.

Later Potosí cobs generally deteriorate in fabric. Even on the obverse of this well-preserved cob opposite there is no mint mark, assayer mark or denomination. Only the 8 of the date shows.

Above is a more typical later cob. This is well-circulated, and details are very difficult to make out. You can see an obverse cross and reverse tic-tac-toe with SVL, and 760 beneath. This could be late Ferdinand VI or Charles III. We only know that it is a one real cob from the weight (2.77 grams). It should be 3.44 grams, but is 19.5% underweight. Someone could have sweated it. Interestingly, it also has an El Salvador "arms" (1869) countermark on the obverse cross side.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.
Calico F. and X., and Trigo, J. *Numismatica Española.* Carlos Fuster-Bailen, Barcelona 1998.
Craig, A.K., *Spanish Colonial Silver Coins in the Florida Collection.* Iniversity Press of Florida, Gainesville, FL. 2000.
Douglas, D.G., *The Copper Coinage of the State of New Jersey.* ANS 2003
Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause P.ublications, Iola, WI. 2002
McLean, A. T., Potosí Cobs. A Coinage in Transition. Nmismatist. January 1994. pp60-68.
Menzel, S., *Cobs, Pieces of Eight and Treasure Coins. The Early Spanish-American Mints and Their Coinages 1536-1773*. ANS, NY, NY 2004.
Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.
Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.
Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL.
Sedwick, D.F., The Cobs of the Mint of La Plata, Bolivia.*Daniel Frank Sedwick LLC Treasure Auction 6. October 15, 2009 pp168. Winter Park, FL.*
Weatherford, J., *Indian Givers. How the Indians of the Americas Transformed the World.* Ballantine Books. Crown Publishers NY, 1988.
https://en.wikipedia.org/wiki/Francisco_de_Toledo#/media/File:Francisco_de_Toledo_Virrey.jpg
https://en.wikipedia.org/wiki/Potos%C3%AD#/media/File:Capitulo-CIX.jpg
https://en.wikipedia.org/wiki/Potos%C3%AD#/media/File:Casa_de_la_Moneda_de_Potos%C3%AD_(Bolivia).jpg
https://en.wikipedia.org/wiki/Potos%C3%AD#/media/File:Cerro_Rico_Potosi_(pixinn.net).jpg
https://en.wikipedia.org/wiki/Luis_Jerónimo_de_Cabrera,_4th_Count_of_Chinchón#/media/File:Chinchon.jpg

473

Potosi 8 Reales Tic-Tac-Toe 1684 V, Pedro de Villar. Sed-P39; 43mm, 27.77 Grams VF

CHAPTER EIGHT
TYPE COLLECTION OF COBS: PANAMA



Initial Panama Administrative Areas

When the Spanish landed in Central America, they called the first settled area on the mainland Tierra Firme. This extended from Cabo de Gracias a Dios to Cabo de Vela (see map above). The "Spanish Main" was different. This included Tierra Firme and extended to present day Mexico, Texas and Florida.

Tierra Firme was under two governments in 1508: Veragua and Urabá (see map above).



Early towns of Panama

In 1509 the Spanish founded Nombre de Dios (the name of God), shown on the map above. But they abandoned it in 1511, only to resettle it as an Atlantic port in 1520.

However, they built the port on a swamp, so they could not fortify it, making it difficult to defend. In 1597 Portobello replaced Nombre de Dios (shown on the map bottom left).

Vasco Núñez de Balboa founded the first Spanish town on the mainland in 1510, named Santa Maria del Darién (also called Darién). Shown on the map bottom left, on the Gulf of Urabá (also called Darién Bay), it was a great port. However, communications with Panama were impossible because of impassible jungle. Indeed, even today the Pan-American Highway (CA-1) stops there. There is no road link between Panama and Colombia. The highway starts at Prudhoe Bay, Alaska, running to Argentina, except for the 70-mile Darién gap.

Balboa wrote to the King saying Darién was the region of gold. So the King renamed the town Castilla de Oro (Castile the golden), capital of Tierra Firme. In 1513, Balboa led the first expedition to the Pacific Ocean. However, the King appointed Pedro Arias de Ávila governor of Tierra Firme, before news of Balboa's exploits reached him. Arias beheaded Balboa in 1519 for "treason," but more likely for jealousy.

In 1514, Arias, as first governor, crossed the isthmus and founded Panama City as a South Sea port in 1519. Native Americans burnt the abandoned Darién in 1524.



Statue of Pedro Arias de Avila, Panama City.

In 1520 Arias founded Nata (see bottom left map), because of gold deposits found there. The same year he ordered Nombre de Dios repopulated and a 54-mile trail built between it

and Panama City called the Camino Real (Royal Road — see model below). It was a jungle trail and canoe route. In 1533, Espinosa built another road from Panama City to Nombre de Dios, called the Camino de Cruces (see bottom model), because of all the gravesites along the way. Each crossing risked life from disease or attacks from natives or runaway Panamanian slaves (cimarrones) necessitating military escorts.

Panama became an important place, especially because it opened up South America and provided a narrow (though dangerous) crossing point to the Atlantic. In 1532 Pizarro conquered Peru, and in 1539 the Spanish discovered Cerro Rico. Audiencias (judicial tribunals) existed in Mexico and Hispaniola. The Crown established a third Audiencia in Panama in 1538, whose president was also the Governor of Panama City. There were only 300-400 buildings. A quarter of residents were wealthy. Indians serviced them living in small huts in the fields behind (see left).



Model of east Old Panama City showing Camino Real.

However corruption was rampant. The Crown dissolved the Panama Audiencia, replacing it with one in Lima in 1542, and Guatemala in 1543. The next year, the King established his second viceroyalty of Peru, which started at Panama and included the western three-quarters of South America. Why the western part? Because the 1494 Treaty of Tordesillas established that the Portuguese would own everything east of a line 370 leagues west of the Cape Verde Islands.



Model of west Old Panama City showing Camino de Cruces.

Audiencias checked the power of viceroys and governors. They could correspond directly with the Council of the Indies. In1565, the Audiencia of Guatemala was transferred back to Panama City, by which time the Spanish New World had two viceroys.

The South Seas fleet sailed from Panama City to Lima to pick up bullion. After they arrived back at Panama City, porters crossed over the isthmus to Nombre de Dios, and after 1597 to Portobello. The Tierra Firme fleet sailed there from Cartagena, then Havana, then Spain. In the dry season (January to April) merchants from Lima and Europe held trade fairs at Nombre de Dios trading specie for European products.



Stone Royal Safe House off tip of Old Panama City



The author with Jorge Proctor, dressed as conquistador, in November 2017.

Panama provided boats, mule trains, food, lodging and security. Spain sent speedy "avisos" ships 6 months before the main fleet arrived, to coordinate events.

The New Spain fleet (Veracruz bound) sailed from Spain in April or May for Veracruz. The Tierra Firme "Galeones" bound for Panama sailed in August to Cartagena, and in November to Nombre de Dios. The "Armada del Sur," the South Seas fleet, sailed to Panama City to coordinate with the Galeones arriving at Nombre de Dios. After fairs early in the year, fleets left in the spring to link up to Havana then sail to Spain.

The Council of the Indies suggested a new mint in Cartagena, but Philip II wanted Panama. He started selling mint positions in 1578. Philip II's original decree of March 22, 1579, in Madrid specified in 14 paragraphs all the requirements for the mint and the cobs.

The decree specified silver coins only, in 1/2, 1, 2 and 4 reales denominations. At the critical point in the document original researchers translated the archaic Spanish as "Un aspa con hoja encima" (an X shape with leaf above).

Generations of cob collectors searched in vain for an X with a leaf above. Rare Lima cobs with P for Peru and a poorly struck assayer X may have made a few numismatists very excited!

Until researcher Jorge Proctor appeared, no one was sure which cobs were Panamanian. But the full story came when Proctor re-read the archaic Spanish. To him the translation was "una / p / con una / a encima" meaning a P with an A above. In Frank Sedwick's Second Edition of *The Practical Book of Cobs* (1990), he said, "1579-1580, undated. The identification of the AP mintmark is too recent for accurate price projections."

Why A over P? Three theories:

- The A over P, standing for **P**anam**a**, paralleled Mexico's o over M, standing for Mexico. Some say Mexico City needed this to differentiate from the Madrid Mint, as did Panama from Potosí (Peru). Actually the Madrid Mint did not exist until 1615!
- Nuestra Señora de la **A**sunción de **P**anama.
- **A**udiencia de **P**anama.

Formerly numismatists thought AP stood for Alto Peru (High Peru i.e. La Plata and Potosí rather than Lima).

The two reales cob on the next page shows A over P over II to the left of the obverse Habsburg shield. To the right is an o over B. The B is made of two D's. The legend reads: PHILIPVS.D.G.(H)ISPAN.

The reverse is off center and shows a Greek cross quartering castles and lions. Two concentric circles of pellets surround the cross. The legend reads: (ET I)NDIARVM. RE(X).

Of this die combination, one exists in the Colonial Williamsburg Foundation collection. Four specimens are collectible. Proctor lists and illustrates every specimen's provenance and die combination in his book. This is the plate specimen in Calico Trigo in 1998. They chose another coin to plate for their 2019 edition.

In 1579 Spain sent the Tierra Firme Fleet with 19 ships, arriving at Nombre de Dios in 1580. After delivering the punches, dies and mint equipment, they picked up bullion and four war ships (the Guard Fleet). This was bullion transported by the South Seas ships from Lima to Panama City. They then sailed to Cartagena, then Havana, then returned to Spain.

Spain sent only 15 letter punches to spell PHILIPVS D G HISPAN IND REX. For the B assayer they used two D punches! They may have sent sample dies. We know the Atocha wreck of 1622 also transported dies.

Panama's reverse shields used a different tressure arrangement from most Spanish cobs. Panama used a cross with **double <u>brackets</u> or braces ({{) at each end of the cross.** The tressures continued with double parentheses ((( ) in the quarters between the cross ends. This arrangement is seen only on Panama cobs, some Spanish peninsula cobs, the Star of Lima, and some Cartagena shield cobs.

Most other cobs like Mexico, Potosí and Lima used **double <u>parentheses</u> at each end of the cross,** and double brackets over the quarters:

{{ –|–}} Panama ((–|–)) others

They needed two reverse (troquel) dies for each obverse fixed lower die (pila) so they could continue coining as soon as the reverse die broke. High grade steel for die making was expensive, so new assayers would over punch dies. The Crown specified half reales should show a monogram instead.

The Panama Mint opened in 1580. It was really just a status symbol for Panama City. They had no endogenous source of silver, just profits from trade fairs. The official's salaries were set too low; the cost of the dies and equipment was too high; and building costs were too high. Output was small. It all added up to a non-starter. In 1582 the Crown sent accountants to investigate Panama Treasury officials embezzling royal funds for their own use. They suspended many officials. The last documents referring to the mint were in 1582.

Originally Panama City wanted to send gold from Nata to Spain (see bottom left map page 180). But the decrees only granted silver coining rights. Neutron activation analysis shows that the silver for Panama cobs came from Potosí.

The *Santiago* was a Portuguese ship which sank off the Bassas da India reef in 1585 between Mozambique and Madagascar. They had several AP cobs. Salvors recovered around 250,000 cobs from the 1622 Atocha wreck of which four were from Panama.

Proctor describes only 123 cobs known in 2005:

- 14 half real
- 41 one real
- 35 two reales
- 33 four reales

Many are impounded in museums. Menzel said under 100 existed. Sedwick in 2007 said the census was under 50.

Assayers are as follows:

- oB and oX for 1, 2, and 4 reales
- P-M for 1/2 reales
- A single 4 reales is known of C-oX (C unknown name).



2854

Panama 2 Reales. oB Assayer: Bernardo Rodriguez. Proctor-2R.1B; Sed-AP-4; 27mm, 6.73 Grams VF



Panama City today, six miles west of Old Panama City.

Panama Assayers

P-M 1580 Pedro Rodríguez & Miguel Hurtado de Vera?
oX 1580-82? Juan Gutiérrez (J & X pronounced same)
oB 1582?-83 Bernardino Rodríguez
Pedro and Bernardino were brothers.

In 1671 Governor Guzman set Old Panama City on fire to prevent the attack and looting by the pirate Henry Morgan. The next year the Spanish started constructing a new city which they completed in 1673 — (New) Panama City.

References

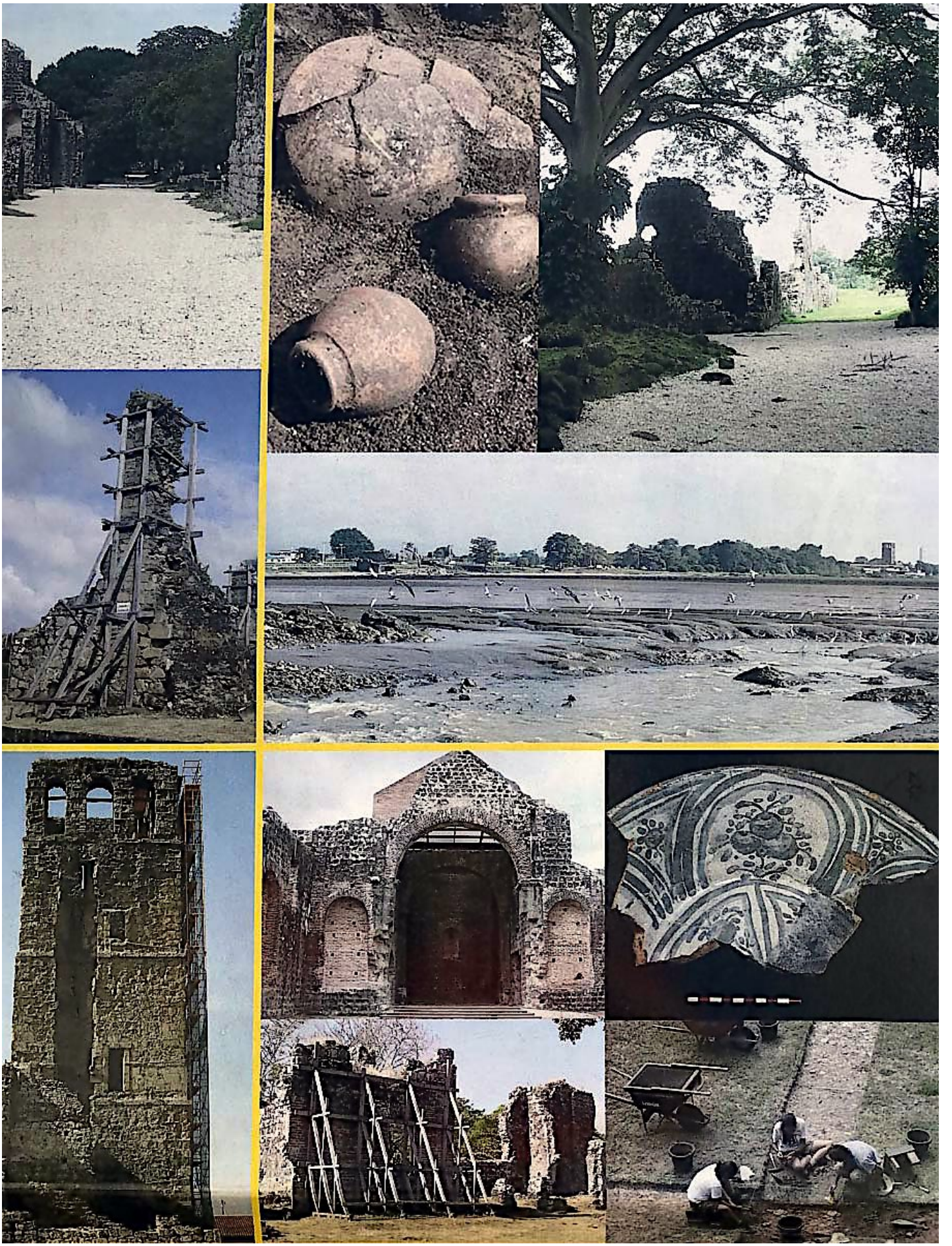
Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.
Calico F. and X., and Trigo, J. *Numismatica Española.* Carlos Fuster-Bailen, Barcelona 1998.
Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002
Menzel, S.,*Cobs, Pieces of Eight, and Treasure Coins. The Early Spanish-American Mints and Their coinages 1536-1773.*ANS, NY 2004
Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.
Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.
Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.
Sedwick, D. and F., *The Practical Book of Cobs.* 1st Edition 1987, 2nd Edition1990, 4th Edition 2007. Self-published. Winter Park, FL.
https://en.wikipedia.org/wiki/Panama_City#/media/File:Panama_city_panoramic_view_from_the_top_of_Ancon_hill.jpg



Old Church tower in Old Panama City



Old Water Cistern in Old Panama City



Views of Old Panama City, taken from Panamanian government sign.

CHAPTER NINE
TYPE COLLECTION OF SILVER COBS
BOGOTA & CARTAGENA

Although I refer to Santa Fe de Bogotá and Cartagena as Colombian mints, that really means present-day Colombia. At the time, they formed part of the Viceroyalty of Peru which started in 1544, stretching from the northern border of today's Panama to the tip of South America. Cartagena, was initially part of Urabá, itself part of the Tierra Firme administration, starting in 1508. But the viceroyalty of Peru included present day Colombia and Cartagena.



Relief map of present-day Colombia

In 1733, present-day Colombia, Panama, Ecuador and Venezuela became part of the viceroyalty of New Granada (see map above).

Bogota and Cartagena

Originally known as Santa Fe de Bogotá, Bogotá is the capital of Colombia today. At an elevation of 8,660 feet, the name derives from the Indian, Chibcha Bacatá. Translations of this vary. One translation is, "Walling of the farmland," another is, "Lady of the Andes," another is the name of a local chief. Andes means, "Shining Mountain."

From 1537 to 1540 the Spanish conquistador Gonzalo Jiménez de Quesada conquered the local Muisca Indians. They lived on the Bogotá savannah, a flat plain high in the Andes derived from a lake 30,000 years ago. The Muisca traded for gold with other local tribes and made gold religious pieces, including the famous Muisca raft:



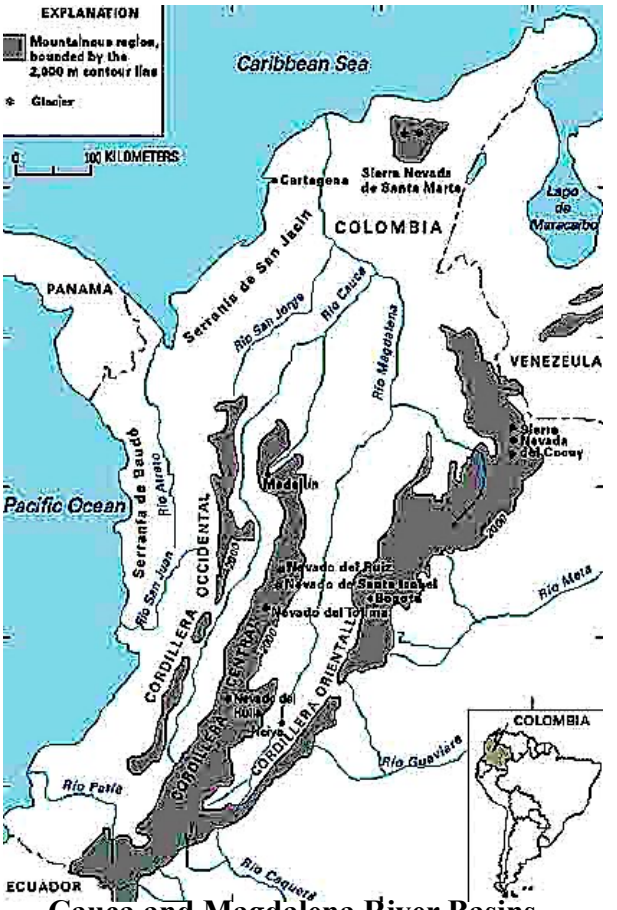
Muisca or El Dorado Raft

Between 600 and 1600 CE Muiscas cast this gold votive using a lost wax method. It represents the ceremony of El Dorado, the investiture of Muisca chiefs on a raft on Lake Guatavita 35 miles northeast of Bogotá.

The chieftain's heir covered his body in gold dust and jumped into the lake with gold offerings and emeralds to the gods. The chief is the tall man at the back of the raft, standing with a very painful looking nose ring. Three farmers discovered this piece in 1969 in a cave. It now resides in the Bogotá gold museum.

The Spanish Crown gave Bogotá the name Santa Fé (Holy Faith) in 1540, anointing it as a holy city. The area originally became a Captaincy General, like those of Hispaniola, Cuba and Puerto Rico. In 1549, the King

established an Audiencia there. The next year, in 1550, he created the Kingdom of New Granada (Nuevo Reino de Granada). This was a group of provinces in the northern part of South America governed by the Bogotá Audiencia President. This formed a special part of the viceroyalty of Peru until 1717, when it became its own viceroyalty. Bogotá was populous, fertile and central.



Cauca and Magdalena River Basins.

In the early days the Spanish had governors in Cartagena, Santa Marta and Popayán, making for diffused control. The early economy was both agricultural and mining. Like all conquistadors, the Spanish stole as many Indian gold religious ornaments as they could get their hands on. As soon as that source dried up, they had to mine for gold. As usual, they forced Indians to work the mines, who quickly died of European diseases. So they imported enslaved Africans from the Portuguese to work the mines. Spain was too busy mining gold and silver, leaving the slave trade to Portugal and England.

During this time, Spain controlled Portugal, so silver shield cobs show a superimposed Portuguese shield. In 1578 the Portuguese King and his successor died, leaving three grandchildren claiming the throne. King Philip II of Spain invaded Portugal, defeated their troops at the Battle of Alcantara in 1580, and took over as king of Portugal. The House of Habsburg ruled over Portugal until 1640, when John IV of Portugal re-took it. Spain's King Philip IV attacked periodically until disastrous losses in 1665. After that, Madrid recognized Portugal's sovereignty.

Today, Bogotá's city population is 7.4 million with a metropolitan population of 10.7 million. The Western Andes are rich in silver, copper, gold and emeralds, all mined since pre-Columbian times. Colombia has the largest mining area per surface area in the world.

The gold fields of the Magdalena and Cauca River basins (see map on left) produced a steady flow of silver and gold. As in Mexico City before the mint, people used plata and oro corriente, whose fineness varied. As in Mexico, lax assayers stamped local pieces with royal seals.

In 1614, the Santa Fe Audiencia asked the King for a mint. In 1618 the Council of the Indies advised Philip III to issue decrees for a Bogotá mint to issue gold, silver, and copper. They said, without local reliable money, the King would receive less quinto real.

In 1620, King Philip III authorized both Colombian Mints — Santa Fe de Bogotá and Cartagena. They were the first Spanish colonial mints to strike gold cobs. Philip sent over Captain Alonso Turrillo de Yebra, a military engineer, to Santa Fé. He ran the mints as a franchisee. Acting as treasurer of both mints, he would make his money as a percentage from the mint over his 15-year contract, but could not strike gold. Cartagena opened in 1621, and Santa Fe in 1622.

Some ore flowed south and up the mountains to Bogotá. Some flowed north to Cartagena, where Philip authorized a branch mint. Cartagena also used outside bullion.

When Turrillo arrived in Cartagena in 1621, the local governor blocked him at every turn. The governor worried that low fineness coins, as authorized by the king, would drive good money out of circulation, causing more trouble for their economy. He worried further that copper coinage would suffer the same fate, i.e., drive out good money. Turrillo wanted to mint debased silver (45-50% fine) for local trade.

Gresham's law (bad money drives out good), was already a well-known concept then. Aristophanes mentioned it around 400 BCE, Oresme ca. 1350, Copernicus in 1519, and Gresham (1519-1579). The British economist Henry Macleod named it after Gresham in 1858.

Blocked by Cartagena, Turrillo left with his staff and equipment for Bogotá. There he met the same resistance against debased silver production. Disgruntled, he returned to Spain to talk to the boss. But during his absence, the boss had died! Turrillo now had to deal with the new King, Philip IV. He affirmed he wanted plata corriente coined at a debased fineness. So, Turrillo returned to Bogotá and Cartagena, where he set up the mints. The king did not authorize Cartagena to strike gold, though it did.

New Granada officials thought, "Hey! New King! Maybe he will change his mind!" So they lobbied him. Sure enough, in 1626, he changed his mind and ordered all cobs be full fineness. Local officials breathed a sigh of relief. The Mints had to melt all previous low fineness plata corriente and strike it as 93% silver.

Turrillo struck gold at the mints. The Council of the Indies fired him in 1635, but the King made him governor of Antioquia in 1637 (the main mining province in northwest present day Colombia).

The first imported dies had SF for Santa Fe. But NR (for Nuevo Reino de Granada) soon replaced this. Both Cartagena and Bogotá (Santa Fe) used NR or RN as a mint mark.

The 1622 Spanish Fleet shipwrecks (Atocha, Santa Margarita, and Dry Tortugas) yielded some interesting rarities:

- Some 1621 8 reales Cartagena RN mint, assayer A cobs
- 1619 one escudo and 1622 two escudos gold cobs with SF for the mint under Philip III (who died in 1621). Joseph Lasser argued that the S stood for Santa Fé, and the F was a broken punch for E for assayer Jaqueo Emayr. Menzel argues that Emayr engraved the dies in Madrid, and did not know who the assayer would be, so left off the assayer initial. However, he left a space below SF for an assayer initial to be punched into the die.

Rare billon cuartillos exist called cuartillos de vellón rico (quarter reales of enriched billon). Why the long name, I do not know. If it was under 50% it is billon. If it is over 50% it is silver. At any rate, these are exceedingly rare. They use an S mintmark for Santa Fe, and RN for Cartagena.

How to differentiate Cartagena and Santa Fe silver cobs

An RN or NR could mean Cartagena or Santa Fe de Bogota. You can differentiate shield cobs by assayer, except for assayer A shield cobs and assayer S pillar cobs, which are common to both. Early Bogotá and Cartagena shields both show a superimposed shield of Portugal over the upper Habsburg shield.

For shield cobs assayer A:

Bogota A for Antonio Arias pieces show:
Type I — S to the left, A to right, no denomination
Type II — RN to left, •A• to right no denomination
Pomegranate below Portuguese shield on the upper part of the Habsburg shield, or at base.

Bogotá pieces for Alonso de Anuncibay show:
Type I & II — N over R over A to left of shield
Pomegranate at base of shield, no Portuguese shield over Habsburg shield

Cartagena pieces show:
Type I — NR or RN to left, •A• to right, no denomination
Type II — RN to left, A and denomination to left.
No pomegranate on shield. Portuguese shields.

For pillar cobs assayer S:

Bogotá S pieces come as:
Type I SAN to right of shield, SF to left of pillars
Type II SAN to left of shield, S to right of pillars
Type III SAN to left of shield, F over S to left of pillars
Type IV F to left of pillars, S to right of pillars

Cartagena pieces come as:
C over S to right of shield (see page 196)

You can identify the rest **of Colombia Assayers** cobs by assayer marks listed ahead:



2133

Bogotá Shield 8 Reales. •VI(II R Under Brazil C/M) to Left. (•N)•R• to Right. Pedro Ramos 1642-51. Sed-B6; AVF

SANTA FE DE BOGOTÁ

Shield	DATE	ASSAYER	AR	AV
none	1622	SF for Santa Fe	yes	yes
A	1622	?Antonio Arias de la Rua	yes	
T	1627	Prob Alonso Turrillo	yes	yes
A	1627-8 1632-42	Alonso de Anuncibay	yes	yes
P	1627-32	Miguel Pinto Camergo	yes	yes
R	1642-51	Pedro Ramos	yes	yes
Pillar				
Many	1651-79	Pedro Ramos	yes	yes
OL(S)M	1676	José de Olmo	yes	
G, RG	1676	Gaspar de los Reyes		yes
PG, GP,oP	1678-86	Pedro Garcia de Villanueva	yes	yes
IcMs sM	1687	José Martí	yes	yes
VA,AV, A ARCE	1691-1722	Buenaventura de Arce	yes	yes
S, SAN	1722-44	José Sánchez de la Torre	yes	yes
M	1732-44	Miguel Molano	yes	yes
S,SR	1744-55	Sebastián de Rivera		yes
MP	1748	Manuel de Porras	yes	

Yellow = gold assayer too.

Bogotá Silver Cobs

Opposite is a Bogota Shield cob. It shows VIII R to the left of the shield. Only the VI shows. Unfortunately, a Brazil 480 Reis countermark (likely fake) covers the rest. The host cob is genuine. Dan Sedwick identifies this as an R assayer for Pedro Ramos, though the countermark hides the R.

On the right of the shield, is N•R• for Nuevo Reino. The reverse shows a Greek cross quartering the castles and lions with +HIS in the legend.

Bogotá and Cartagena cobs both have assayers A and S, so these can be confused. On all other pieces, you can differentiate Bogotá from Cartagena by the assayer mark.

The pillar Bogota piece overleaf shows a shield obverse with •VIII• to the left of the shield and nothing to the right. The reverse shows PoRAS then a pillar then O over NR for Nuevo Reino. Between the two pillars is PLVS V… On the right of the right pillar is (16)5Z, the date. PoRAS stands for Pedro Ramos. The coin is the Menzel plate coin on page 408, which he lists as RA rather than PoRAS.

Bogotá Gold Cobs

Experts previously thought gold 1622 cobs with the mint mark SF to the left and no assayer were Cartagena. Only a few are known, all 2 escudos, except for a single 1 escudo backdated to 1619. Previously ascribed to Cartagena, the most recent research from Jorge Proctor proves that the "1619" and 1622 SF issues were struck in Bogotá after all.

The two escudos cob on page 193 is from Bogotá. Most Bogotá gold pieces are two escudos like this one, though 1, 4 and 8 escudo cobs are available. The Potosí Mint scandal affected Peru but did not affect gold. Thus the Colombian Mints left their gold as shield cobs after 1652, not needing to switch to pillars.

Only gold cobs use the F mintmark for Santa Fé. This one overleaf shows the lions and castles transposed. (Bogotá gold commonly has transposed lions and castles from 1687 to 1746.) On the right is the Naples and Sicily shield, and below is Burgundy — an abbreviated Habsburg shield. To the right of the shield is possibly an S. The reverse of the cob shows stylized fleurs-de-lis in the angles.

The Bogotá Mint struck silver cobs 1622-1748. They struck gold cobs in 1622, and 1627-1755.

The Cartagena Mint struck silver cobs 1621-1635 and 1655. They struck gold cobs 1627-1635.



1862

Bogotá Pillar 8 Reales. •VIII• Obv, (Po)RAS‖ oNR‖ 1652 Rev. Pedro Ramos. Menzel Plate Coin. Sed-B7; 43mm, 25.86 Grams VF



1776

Bogotá 2 Escudos, •F• Transposed Lions & Castles Obv, 4 Fleurs-de-Lis Rev. ?S for José Sanchez 1726-46. Sed-B25B; 19mm, 6.71 Grams VF



1584

Cartagena Shield 8 Reales RN-A. Doubling. Arias de la Rua, 1621-22. Sed-C2; 36mm, 26.28 Grams Ex-Atocha 1622 VF+

CARTAGENA MINT

In 1651, after the Potosí Mint scandal, Santa Fe de Bogotá and Cartagena switched from shield to pillars silver cobs. "Shield" means shield/cross, "pillars" means shield/pillars.

In the 1670s, enslaved and emancipated Africans worked gravel in river beds for gold. The Crown, under the impaired Charles II, reduced its quinto real to diezmo (10%) to encourage more mining. If you got to keep 90% not 80% of your gold, there was less incentive to cheat, and more incentive to mine!

Gold and silver often occur together in ore. After extracting the gold using mercury amalgamation of crushed ore, the remaining silver became a source of silver bullion. But Cartagena may also have used silver bullion bars passing through its port.

Cartagena silver 8 reales cobs are expensive at $3,000 to $7,000 especially the pillar cobs. Other expensive silver cobs are:

- Carlos & Juana 3 reales $4,000-$15,000
- Carlos & Juana 8 reales $300,000-$500,000
- Panama cobs $4,000-$10,000
- Lima precob 8 reales $45,000

Assayer A (possibly Arias de la Roas) assayed coins at Cartagena and at Santa Fé de Bogotá. Previously, numismatists attributed the A to Iñigo de Alvis or Martín de Arbustante, but neither were in Cartagena in 1621.

The shield cob opposite has no pomegranate, placing this as a Cartagena cob(see page 189). Recall, both Bogotá and Cartagena shield silver cobs have the superimposed Portuguese shield, reflecting Iberian Union from 1580 to 1640.

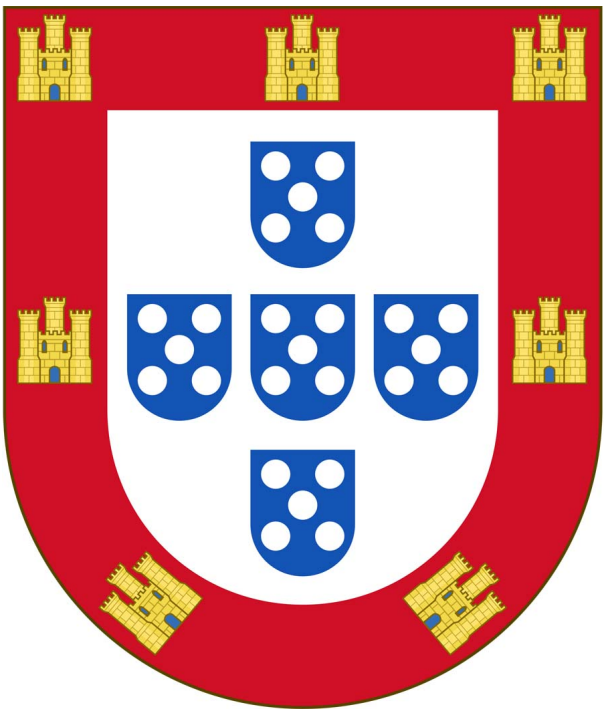
The doubled R over N on the left is for Nuevo Reino. Although these pieces are dated, this reverse does not show the date (1621 or 1622). Philip IV ascended the throne on March 31, 1621. It would have taken many months for the news to reach Cartagena. Some rare detailed 1621 coins show the new king's ordinal (IIII) meaning that they likely struck these only in the last few months of 1621.

This is the Type I piece — NR or RN to left, •A• to right, no denomination. These Cartagena A assayer pieces only come as 4 and 8 reales. Early pieces showed no denomination, later pieces had the denomination above or below the A on the right of the shield.

Note the shield of Portugal overlying the upper Habsburg shield. The Portuguese shield's blue cross changed to five shields with silver coins in each shield, symbolizing the monarch's right to coin currency. The five shields represent the five Moorish Kings defeated by Portuguese King Alphonso I at the Battle of Ourique in 1139.

The five shields and five coins per shield may also relate to the five wounds of Christ.

Another interpretation was the 30 pieces of silver used in the betrayal of Christ. The middle shield they counted twice — sounds like an IQ test gone wrong! The seven castles represent the seven Moorish castles conquered by the Portuguese king during the Reconquista. The Reconquista lasted from the Umayyad Moorish conquest of Iberia in 711 to the expulsion of the Nasrid Moorish King of Granada in 1492.



Portuguese Shield

The Bogotá Mint was active from 1622 to 1748 striking cobs. But the Cartagena Mint was active only from 1621 to 1635 and for one year in 1655.

Cartagena Silver Cobs

I show a Cartagena shield cob on the next page — a rare Cartagena 8 reales I bought in 2012 from Cayón Auctions in Madrid. It had a two-page small print write-up in the auction catalogue! Another Menzel plate coin, it has a planchet defect. This 1655 assayer is the only cob known for the Cartagena pillar type.



1860

Cartagena Pillar 8 Reales VIII–C/S. 1655. Menzel Plate Coin. Planchet Defect. Bérnabe Sánchez Sed-C4; 36mm, 25.52 Grams VF

Sedwick says: “After much deliberation about what to do about the lack of legal coinage after the Potosi mint scandal, and… needing to provision the armada of the Marquis of Montealegre on their way to do battle with the English, Governor Don Pedro Zapata made the ‘executive decision’ to re-open the mint without royal authorization. The king ordered an investigation and trial. The issue took place for only a couple of months, making these coins among the rarest type of silver cobs from the Americas.”

The obverse shows the denomination VIII to the left of the crowned shield which interestingly uses the quartered castles and lions, not the Habsburg shield. To the right of the shield is CS (for Cartagena and the assayer, possibly Bernabé Sánchez). The engraver used small x’s as stops, seen between the II of PHILIPVS II, and D of DG, as well as between C and S.

The reverse shows two crowned pillars over waves, with PLVS VLT(RA). At top is a cross made of five +’s. The engraver also used +’s between the PLVS and the VLTRA. The date (16)55 is clear at 11 o’clock. The reverse +’s use the same punch as the obverse x’s (rotated 45 degrees). There is a planchet defect at 5 o’clock on the obverse, spreading to 6 o’clock on the reverse.

CARTAGENA ASSAYERS

Shield	DATE	Assayer	AR	AV
A	1621-22	Antonio Arias de la Rua	yes	
H	1625-26	Juan de la Hera	yes	
E	1626-34	Carlos Echeverría	yes	yes
Pillar				
S	1655	Bernabé Sanchez	yes	

Yellow = gold assayer also

Cartagena Gold Cobs

Experts originally thought Cartagena produced gold cobs from 1622 to 1635. The 1622 cobs had the mint mark SF to the left and no assayer. Only a few are known, all 2 escudos, except for a single 1 escudo backdated to 1619. Previously ascribed to Cartagena, the most recent research from Jorge Proctor proves that Santa Fe de Bogotá struck the “1619” and 1622 SF issues after all. Hey, Hooray! SF still means Santa Fe!

Thus the first coins of Cartagena are the 1621 8 reales of assayer A.

The first gold coins of Cartagena are the 1627 2 escudos of assayer E. Gold production started in 1627, under Assayer E (Carlos Echeverría ?), assayer from 1626 to 1634. From 1627 to 1630, the mint mark was RN or NR (Nuevo Reino de Granada). It then changed to C on the left, for Cartagena.

Menzel lists five types of the gold 2 escudo cob overleaf (II-RNE, II-RE, II-R*E, II-CE, CE-II). Because you often cannot see the dates, numismatists use the four marks inside and outside the tressure lobes to date them:

Date	Outside	Inside	Fleurs-de-lys
1627 & 8	4 crosses	4 dots	small
1629	4 dots	4 crosses	large
1630	4 dots	4 dots	large
1631	4 crosses	4 dots	large
1632 & 3	4 crosses	4 crosses	large
1634	4 annulets	4 dots	branching
1635	4 annulets	4 crosses	branching

Rather than the abbreviated Habsburg shield on the Bogotá gold, Cartagena uses a full Habsburg shield. On the next page is a 2 escudo Bogotá cob with C (illegible) over E to the left and II to the right of the shield. You can actually read the date of 1631 at 11 o’clock on the reverse!

A Colombian cob type collection therefore has a Bogotá shield and pillar silver cob and gold cob; and a Cartagena shield and pillar silver cob and gold cob.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Calico F. and X., and Trigo, J. *Numismatica Española.* Carlos Fuster-Bailen, Barcelona 1998.

Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks.* EN RADA publications, West Palm Beach, FL 2003.

Downing, C.S., *The Charles and Joanna Silver Coinage of Santo Doming, 1542-1552.* Daniel Frank Sedwick Treasure auction #14 October 30, 2013. pp99-103.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.

Opitz, C.J., An *Ethnographic Study of traditional Money*. First Impressions Printing. 2001.

Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.

Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.

Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?*).Numismatics International bulletinVolume 50. Nos. 1/2. January/February 2015. Dallas, Texas.

Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007https://en.wikipedia.org/wiki/Colombia#/media/File:Mapa_de_Colombia_(relieve).svg

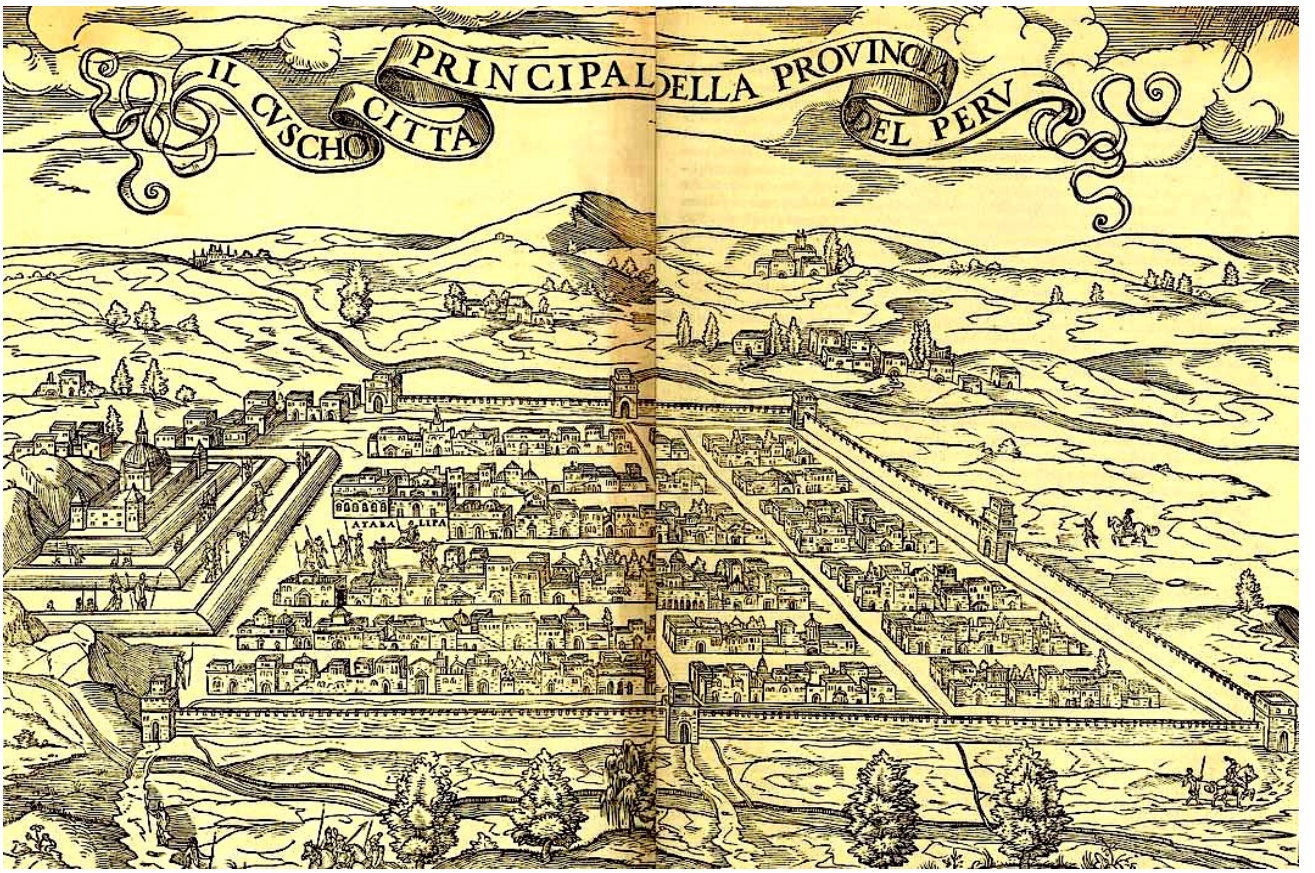


1773

Cartagena 2 Escudos (C/) E—II, ? Carlos Echeverria. 1631. Sed-c 7; 19mm NGC VF 30

CHAPTER TEN

MINOR MINTS — CUZCO AND GUATEMALA



Map of Cuzco during the Inca Empire. 1656 painting by Giovanni Battista Ramusio.



Hatun Rumiyuq Street in Cuzco. Much colonial construction used the Inca's constructions as a base.



1760

2 Escudo Cuzco 1698 ? Melgarejo Assayer. Sed-CZ-1; Ex-1715 Fleet. 16mm, 6.72 Grams UNC

Mint	precob	shield	pillar	tic-tac-toe
Mexico	Ag	Ag Au		
Santo Domingo	Ag			
Lima	Ag	Ag	Ag	Ag Au
Potosi		Ag	Ag	Ag
Panama		Ag		
Bogotá & Cartagena		Ag Au	Ag	
Cuzco				Au
Guatemala			Ag	

Diagram of which mints made what.
Ag = silver, Au = gold

Cuzco Mint

Just as Colombian gold came from the Colombian Andes, Peruvian gold came from the Peruvian Andes. Lima was the capital of the viceroyalty of Peru. The original Inca capital, Cuzco, was 360 miles east of Lima. But it was 11,200 feet up in the Andes, and even today over 20 hours by road or train from Lima.



Relationships of Spanish Colonial Mints.
Courtesy of Google maps.

Lima kept on opening and closing:

- silver precobs 1568-1571
- shield silver cobs 1572, 1577-1587, and 1592
- pillar cobs (star of Lima) 1659-1660
- tic-tac-toe cobs silver and gold 1684-1752

The engraver of the iconic Lima tic-tac-toe gold 8 escudos abbreviated PLVS VLTRA to PVA.

In 1682 Melchor de Navarra, the Peruvian Viceroy suggested to the Crown a mint at Cuzco, only for gold. To sweeten the deal, the Cuzco City council offered the Crown a 25,000 pesos incentive.

But, after a royal decree reopened the Lima Mint in 1684, the Viceroy worried a Cuzco Mint, too distant from Lima, could start debasing gold. So he dragged his feet.

Cuzco magistrates kept pushing. They built a mint and got Captain Francisco Hurtado to help. He also assayed for the Lima Mint on and off from 1696 to 1710. Hurtado arranged the dies for Cuzco, which looked similar to Lima gold (cross / tic-tac-toe).

The Cuzco assayer, Félix Cristóbal Cano Melgarejo, worked as an assistant at Lima with Hurtado. He would later become chief assayer at Lima from 1709 to 1728.

The Cuzco Mint operated only for one year (1698), with only one assayer (M). We do not know why the mints closed. Possibilities are:

- Lingering concerns about debasement
- Lack of gold supply
- Lack of control from Lima
- Concerns about competition with Lima gold
- Epidemics which plagued Lima and Cuzco

The reverse tic-tac-toe should have C2M, PVA, 698. The cob opposite shows a “Bogotá cut,” i.e., thick. The letters C, P and the number 6 do not show. Some cobs have a “Lima cut,” creating a fuller flan, making it easier to read the inscriptions. These cuts are just a way of comparing the flan shape and do not mean the flan, or its gold is from those mints.

The Mint also produced one escudo pieces. These had no tic-tac-toe reverse, just a single castle with C to the left and M to the right, and 698 below (see overleaf). These are much rarer than the 2 escudo type.



2012

8 Reales Guatemala 173? J (José de León y Sosa) Sed-G-1; 34mm, 26.21 Grams Ex-Hollandia 1743. VF



Spanish Colonial Mexico Pillar Dollar 8 Reales 1758 MM Shield / Dos Mundos. KM-104.2; 39mm, 26.93 Grams AU

540



One escudo Cuzco gold cob courtesy Heritage Auctions, HA.com

Guatemala City Mint

Mint workers hand-cut these cobs, and hammer struck them with dies copying the Mexico pillar dollars (see above) that started in 1732.

The Guatemala cob opposite shows a crowned abbreviated Habsburg shield of Philip V on the obverse. The shield has quartered castles and lions with three fleurs-de-lis in the middle and the Granada pomegranate below. On the left is (J) for the assayer José de León y Sosa. On the right is 8 for 8 reales.

The reverse opposite shows the pillars of Hercules (with ribbons saying PLVS VLTRA, though not visible) enclosing the crowned dos mundos. The legends are not visible but say VTRAQUE VNVM meaning, "Both are one."

The coin opposite comes from the Hollandia Wreck, a Dutch East Indiaman, blown off course on the way to Batavia (then the Dutch capital of Indonesia). Weighing 700 tons, she had about 40 cannon. She had hardly started her journey when she struck Gunner Rock off the Scilly Isles. She sank about 1 1/2 miles off the English coast in 100 feet of water in 1743.

Records showed 130,000 guilders (dollar sized units) were on board. In 1971 divers under Rex Cowan salvaged 35,000 silver coins, mostly Mexican pillar dollars and some Guatemala cobs. Many Guatemala cobs are holed.

The Bourbon, Philip V ruled from 1700 to 1746. The ill and childless Charles II named him to succeed him. This sparked the War of Spanish Succession from 1701 to 1714. During this, Spain lost the Spanish Netherlands, and Gibraltar to the English. The Treaty of Utrecht (1713-1714) granted Sicily, Sardinia, Milan and Naples to Austria. During Philip V's reign, the Spanish fought the English in the Caribbean in the War of Jenkin's Ear (1739-1748).

Guatemala started as part of the Viceroyalty of New Spain in 1535. In 1527 conquistadors set up Antigua Guatemala City as the capital. But a volcano destroyed it in 1543, so the Spanish set up another capital a few miles away.



Guatemala 1 escudo, Ferdinand VI, 1750/48 J. Unique, ex-Richard Stuart, Jara Plate Coin. S-G2a. 3.30 grams. Courtesy of Daniel Frank Sedwick LLC. Yo El Rey means, "I the King"

Again in 1776, earthquakes destroyed Guatemala Antigua #2. The Spanish built present-day Guatemala City about 30 miles from the old city. But the city was always landlocked, and communication with Mexico City was slow.

In 1609, Philip III made Guatemala a Captaincy General, an autonomous zone within New Spain. This included present-day Guatemala and Central America, from Mexico to the border with Panama.

Guatemala used Mexican and Peruvian silver. After the Potosi Mint scandal, Guatemala counterstamped full weight two reales pieces with a crown. But lack of circulating specie led to an economic depression there. From 1714 to 1730, they appealed to the Crown for a mint.

Philip V granted a royal decree for a mint, directing Mexico City to fund and supply personnel to start the Guatemalan Mint in 1732. This was the year that Mexico started milled coinage (i.e., flat round planchets struck with a screw press and collar). They used similar dies in Guatemala, though they shaped the planchets by hand and hammer struck them.

Guatemalan pieces are not the same as Mexican klippes. The klippe planchets were rolled flat and of even thickness. Their edges were trimmed to achieve the correct weight. Mexico also struck klippes in a screw press (page 149).

The Crown suspended the quinto real until Guatemalan mine owners had recouped their investments to get the mines producing again. After this, they would only pay a diezmo (10%). The Crown also sold them mercury at cost, for the amalgamation refining process.

In 1712, only one mine operated. By 1737, 37 mines operated. Circulating specie helped the Guatemala economy to boom.

In 1751, Spain decreed all their coins had to be round. By 1754, Guatemala got their screw presses (with collars) running. Thus the hammered cobs of Guatemala ran only from 1733 to 1753.

The mint struck half a million marks of silver and also 2,000 marks of gold. These gold cobs are rare, I could not locate any in the Heritage or Stack Bowers archives, but I show one above from a Daniel Frank Sedwick Treasure Auction. They struck Guatemalan gold cobs from 1733 to 1753 under assayer José de León y Sosa.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.

Calico F. and X., and Trigo, J. *Numismatica Española.* Barcelona 2019.

Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002

Menzel, S., *Cobs, Pieces of Eight and Treasure Coins. The Early Spanish-American Mints and Their Coinages 1536-1773.* ANS, 2004.

Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007https://en.wikipedia.org/wiki/Cusco#/media/File:1565_Cusco_Ramusio_Delle_Navigationi_vol3_pp411-412.pnghttps://en.wikipedia.org/wiki/Cusco#/media/File:Hatunrumiyoc_(7640968366).jpg

CHAPTER ELEVEN
THOUGHTS ABOUT COBS AND THEIR ERA



Why did they make cobs?

Spain knew that their colonies could not function without money. They did not want to send them money from Spain, but they wanted them to have enough money to support a good economy. The story of the Captaincy General of Guatemala, whose economy flowered when their mint made enough circulating cobs, is instructive. It speaks against mercantilism. But the money did not have to be expensively produced. As long as it contained enough silver or gold of the correct fineness, that was all that really mattered. Hence the importance of a visible assayer mark.

The colonists struck cobs by hand. They were cheap to make. Spain struck cobs too. Colonial Spain did not have to coin all its bullion. Treasure ships were full of bars of bullion going to Spain. Cobs were for the local economy and for Spain to buy foreign goods. Excess cobs went to Spain. Stamped ingots and cobs also both certified payment of the quinto real.

Cobs lasted for two centuries in Spanish America. They became iconic. It should come as no surprise that later mints imitated cobs even on their milled coinages. These are called imitation cobs. One is shown above. The engraver presumably copied a colonial cob obverse on which the P from PLVS VLTRA was missing, paying little attention to the exact content of each square. A Lima tic-tac-toe silver cob comes to mind.

On the cross reverse the castles and lions are transposed, and there is a splattering of quatrefoils and dots around, but no bracket or parenthesis tressures. A Cuzco two escudo cob comes to mind in which the castles and lions are commonly transposed.

Cobs as collectibles

Until the end of the Second World War, there was little interest in cob collecting. The invention of the Self Contained Underwater Breathing Apparatus or SCUBA in the late 1940s spurned a diving craze. And with it came more commercial divers who hunted for treasure. It soon became an addiction for some.

The enormous quantities of cobs and treasure bars brought up from the deep by scuba divers has produced an explosion of interest in cobs. Frank Sedwick and his son, Dan Sedwick, have been the prime dealers in such pieces. What creates even more interest is the scholarship that goes along with it. Cobs have become detective items. You have to figure out what a cob is, based on an extensive knowledge of which designs, styles, assayers and dates they show.

They can make you feel like a Sherlock Holmes. But most Sherlocks need references. The best I have found are Daniel Frank Sedwick's *The Practical Book of Cobs*, and Menzel's *Cobs, pieces of Eight, and Treasure Coins.*

Alan Craig's book Spanish Colonial Silver Coins in the Florida Collection talks about 25,000 coins in their inventory. Over 95% of these came from the eleven-ship 1715 Fleet shipwrecked along a 35-mile stretch of southeast Florida.

In his book, Craig mentions that Mexico City to Veracruz was a 10-day low-risk mule journey. The Bogotá to Cartagena journey took longer but was relatively safe. However, pirate and Indian raids made the Panama, Potosí, and Lima trips much more dangerous. Potosí and Lima bullion had to cross Panama to get to Spain.

After 1630, Mexico, the Caribbean and North America refused "Peruvians" so, most ended up in Panama or Spain. As Potosí entangled itself in graft, Spain became an absentee landlord for about 30 years. What happened in Spain then? The Thirty Years War — another European religious war from 1618 to 1648.

After 1652 Potosí cobs were acceptable everywhere. By 1740 the Portobello trade fairs became less important as ships could now navigate around Cape Horn.

Mint expenses

The technical specification of an 8 reales 1535-1728 was 27.468 grams (3.4335 grams per real). At 67 reales to the mark a mark of silver was 230.04 grams. The silver was 93.06% pure.

From 1728 to 1825 8 reales weighed 27.0642 grams (3.380 grams per real). The silver was 91.67 pure from 1728 to 1772 when purity dropped to 90.30%.

During the Potosí Mint Scandal, Craig quotes analyses of Potosí silver varying from 79.2% to 93.5% fine. Assayer B (Juan Ballesteros Narváez) in the 1590s made 85.5% fine silver. Assayer Q (Augustín de Quadra) 1613-1616 made 79.2% fine. Thus the Potosí Mint Scandal had precedents way before 1652. However, these assays may have been neutron activation analysis which only analyses the surface metal and may not represent the overall fineness.

In 1668 Juan Lopez, the royal inspector, investigated another Potosí mint scandal. He punished 22 men, including the treasurer and chief assayer, and condemned ten to death.

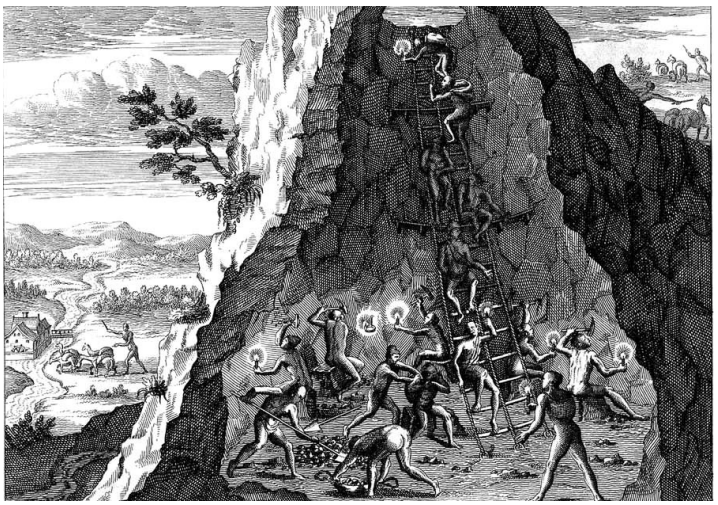
Let us start with 100 marks of unrefined silver.

- Assayer charged 1.5% to assay it, ➔ 98.5 marks left.
- Quinto real paid, ➔ 78.8 marks left (bar has stamp on it now).
- Mint takes 3 reales per 67 in each mark ➔ 75.27 marks left.

Two of the 67 reales went for minting costs and one to the king as señorage (seignorage in English). See page 41 for how the two reales were split amongst mint employees.

Mining Process at Potosí

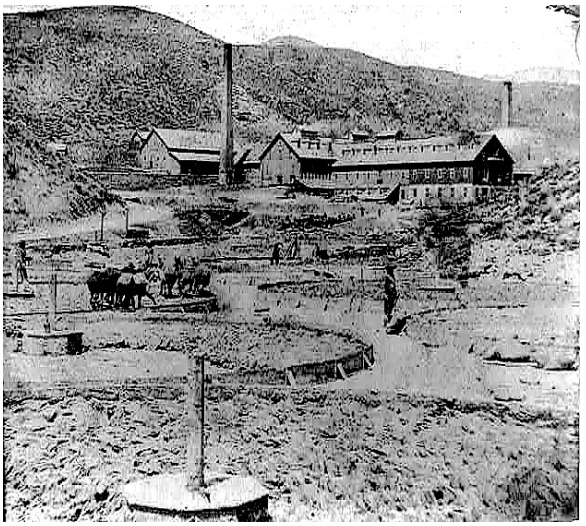
A Spanish mining claim was a 60 by 40 paras, a rectangle with an indefinite depth. One para was just short of a yard (32.9 inches). Thus most ore came from vertical shafts with limited horizontal shafts.



Potosí Silver Mining by Theodoor de Bry.

The production of silver from the mines was a long and arduous process, involving many people and many processes:

- **Miners** (barreteros) took a long iron pry bar and tallow candles down vertical mine shafts and spent all day there. They were usually Indians, fortified by chewing coca leaves.
- **Haulers** (aspiris) were also usually Indians, fortified by chewing coca leaves. They climbed up ladders of wood with leather crossbars carrying leather bags of 50 pounds of ore. Every 10 paras (27 feet) they had a resting platform, which also helped to reduce deaths from falling rocks and bags.
- **Sorters** at the surface (palladores) were usually Indian women who sorted the ore into silver bearing or not.
- They put the **sorted ore** on carts pulled by castrated llamas holding 50 pound woolen bags of ore to the stamp mill at the mountain base.
- At the mountain base a long aqueduct ran a series of water powered **stamp mills** (ingenios) which crushed ore. Inhaling the powder caused silicosis, a potent killer.
- Next they mixed the powder with copper sulfate, mercury, salt, powdered iron, and water on a patio and stirred it for about two weeks to form "**pasta**".



Patio process Gould & Curry Mill 1866 USA

- Once amalgamated, they put the pasta in cloth bags and twisted them with stout poles to expel the excess and valuable mercury.
- They then heated the mixture and condensed the mercury off for re-use, leaving 100 pound conical "**piñas**" — unrefined silver.
- Some mine owners hired private smelters to smelt the piñas into 70 pound ingots or splashers of **plata corriente.** Other mine owners sold the piñas direct to a silver merchant who did the same thing.
- Plata corriente went to the Casa de Fundición (**foundry**) where the **assayer** (ensayador) took the quinto real. He assayed it into bars stamped with fineness and to indicate that the owner had paid the quinto real.
- Assayed bars went to the Casa de Moneda (**mint**) for cob production, or were shipped directly to Spain. The foundry later moved into the Mint.
- At the Mint the assayer **refined the silver** to 99.2% pure, then diluted it with copper to make it 93.1% pure. They poured these into **strap-shaped molds** ready for planchet cutting. This avoided having to roll and beat the silver into a uniform thickness.
- The **cutter** (cortador) cut the planchets with large steel shears, one arm of which was fixed to the floor or to a table. He could then put his whole weight onto the other arm of the shears to shear off silver. **Trimmings** (cizalla) were prime objects for theft. Guards tried to prevent this.
- Once cut (usually slightly overweight, not under-weight), the **weigher** (balanceador) weighed the piece. If underweight, the piece had to be remelted which cost more money.
- Correct weight pieces were thrown into a basket. The **blancher** (blanqueador) heated the planchets then removed fire scale and took them to the treasury office.
- Once recorded by the **treasurer**, the blancher took the blanks into the coining room where the coiner's assistant placed a planchet on the obverse fixed die (pila) using tongs. The **coiner** used a hammer weighted with lead to hit the reverse die (troquel) on top of it.

In 1626 the Potosí reservoir dam feeding the aqueducts burst, flooding the ingenios with mud. The mints took years to recover from this.

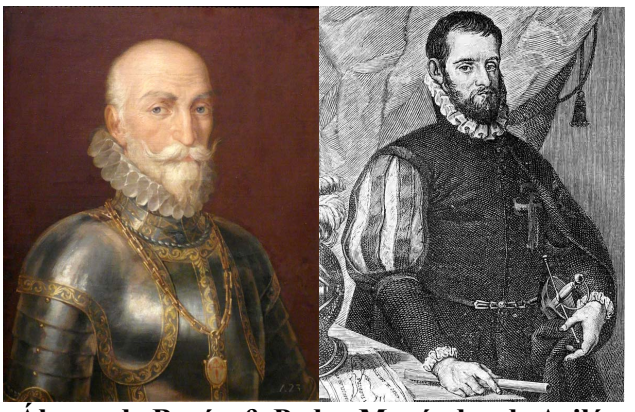
The Flota System

In 1555 the French pirate Jacques de Sores burnt and sacked Havana.



Sack of Havana

Two Spanish naval experts, Álvaro de Bezán and Pedro Menéndez de Avilés, designed a new ship to defend the Spanish against pirates.



Álvaro de Bezán & Pedro Menéndez de Avilés



Carrack Ca. 1558.



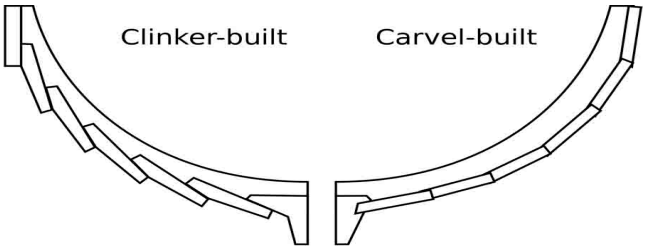
Spanish galleon late 1500s

The big sailing ship of the 1400s and early 1500s was the carrack. The galleon differed from the carracks in that it was:

- lower and longer
- reduced forecastle to decrease wind resistance
- square not rounded stern
- typically 100 by 30 feet, 2-3 decks
- 3-4 masts square-rigged, and a lateen aft rig see below
- carried 24-36 cannon

A nao was the same as a galleon only unarmed and used as a merchant ship. Galleons were usually under 500 tons, though the Manila galleons reached 2,000 tons.

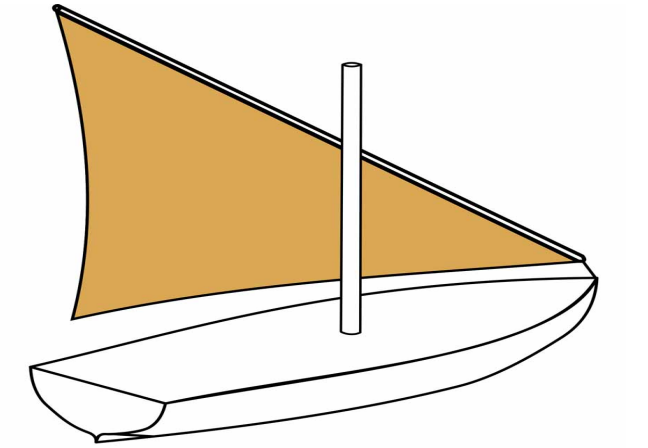
In addition the galleon was carvel built rather than clinker built, which meant heavier frames.



Galleons were carvel not clinker built.



Square rigged above. Lateen rigged below.





1500s Shipping Routes. Spanish (white). Portuguese (blue).

The Spanish flota system, which started in 1564, was also called the Plate fleet (from plata meaning silver) or the Silver Fleet. There were four fleets:

- **Flota de Tierra Firme,** nicknamed the "galeones." They left from Seville, Spain, in August, stopping at the Canary Isles for supplies. They then sailed to Cartagena picking up pearls and bullion, then to Portobello for the fairs. They overwintered in the Caribbean. By spring, the fleet reached Havana, and left in June before the hurricane season.
- The **Flota de Nueva España,** nicknamed the "flota," also left Seville in August sometimes together with the Tierra Firme fleet, sometimes separately. If together they would split up in the Caribbean. The Nueva España fleet stopped at Veracruz picking up Mexican bullion. They paired up with the Tierra Firme fleet in June to leave Havana for Spain.
- The **Manila galleons** started in the late 1560s. They tended to be larger, for the longer Pacific voyage to Manila in the Philippines. There they picked up silk, perfumes, Indian cotton, gems, spices, and porcelain from China in exchange for silver and sailed to Acapulco on the Pacific coast of Mexico. There they transferred the goods (yielding a 100%-300% profit) to a mule train to cross Mexico, or sailed down to Panama City, for the easier isthmus crossing there.
- The **South Seas Fleet** brought bullion and gems from Callao, the Lima port, to Panama City. Lima stored bullion shipped from Arica, the closest port to Potosi.

Peruvian silver traveled by mule train 1,300 miles from Potosí to Lima, or 500 miles to Arica on the coast. Silver and gold traveled by ship from Callao, the Lima port, to Panama City. Colombian gold, silver, and gems traveled to Cartagena. Ships from the Cartagena fleet would also visit Cubagua, off present-day Venezuela, where the Spanish had cultivated skin divers diving for pearls.

The flota or fleet system protected merchant naos with armed galleons. Each fleet, depending on bullion output and supply needs, had 10-90 naos and 2-10 galleons. The largest galleon was the capitana, which carried the Captain-General, the commander-in-chief of the fleet. The smaller almiranta galleon carried the Admiral of the fleet who was the second-in-command. Galleons carried the bullion. The naos carried passengers, supplies, and lesser value goods. They also had smaller ships that travelled back and forth between the galleons and naos during the voyage to transfer supplies, passengers, etc.

Before 1597, Nombre de Dios was the gathering place for the fleets. After that, the more easily defended Portobello was the Atlantic Panamanian port of choice. All the bullion, emeralds, and precious stones from South America travelled from Panama City by mule train on the Camino de Cruces, then boat on the River Chagres to Portobello. Oriental goods shipped from Acapulco to Panama City traveled on the same route. From 1606 to 1739 Portobello hosted a 40-day fair where merchants from Spain, Pana-

ma, Colombia and Peru flocked to exchange Spanish and New World goods. Veracruz and Cartagena also hosted less successful fairs.

They held these great fairs from November to February. The two fleets bound for Spain then met in the spring at Havana. After British Admiral Vernon's attack on Portobello in 1739, ships preferred the Cape Horn route, and the Portobello fairs fizzled out. After bypassing Panama, the Panama Audiencia became increasingly corrupt until Spain suppressed it in 1751.

Although the two fleets were supposed to leave Havana in June to avoid the hurricane season, they were often delayed to July or August. Reasons for the delay were:

- inefficiency
- ship repairs
- pirate attacks
- failure of linking ships to arrive
- hurricanes

The two fleets left Havana picking up the gulf stream, traveling northeast through the Florida Straights, a treacherous sea at a treacherous time. Indeed, the main shipwreck areas for the Spanish fleets were the Florida Keys, Eastern Florida and the Caribbean Islands.

The combined fleets arrived in Spain at Sanlucar de Barrameda, the entrance to the Guadalquivir River. There they had to negotiate a dangerous sandbar, then ascend the river to Seville. The Crown demanded that all bullion disembark at the Torre de Oro, the Crown's "customs".

The chief Portuguese, Dutch and British shipwrecks, by contrast, were off South and East Africa and the English Channel and North Sea.

Between 1500 and 1800 Spain controlled 80% of world silver and 70% of world gold. But like a childish lottery ticket winner, they simply spent it on wars and royal excesses — they did not invest it in their country or economy. Of course, at the time there were no macroeconomists. They were called nobles! They curried royal favor for their schemes and intrigues, which simply frittered away Spanish wealth. Instead, the Dutch and English got rich.

But the flota system worked. The ships they lost were from hurricanes and from striking reefs. Only in 1628 did they lose a fleet to Piet Hein, the Dutch Admiral, and in 1657 to the Englishman, Robert Blake. The British also captured four Manila galleons.

New World Spanish Class Systems

New Spain imposed a rigid class structure:

1. **Peninsulares**. These were the white Spaniards born in Spain, the only people who could hold high public office.
2. **Creoles** (criollos), the white Spanish born in the Americas. They were a lower social standing, but could occupy lower governmental posts. But many still became wealthy merchants and land owners.
3. **Indians** who could only be laborers.
4. The **disenfranchised.** (equivalent to untouchables) the mestizos, zambos, blacks, pardos and mulattos.

To prop up this system they had a complex system of skin color classifications:

- Half white, half Indian — mestizo
- Half Indian, half black — zambo
- Half white, half black — mulatto
- Three-quarter white, one-quarter black — quadroon.
- Seven-eighths white, one-eighth black — octaroon.
- mixture of white, Indian, and black — pardo

All of these fell into the disenfranchised class.

Sunken Treasure Salvage History

Without diving for shipwrecks the field of cobs would be very small. Almost as fascinating as cobs is the history of the science behind diving. I divide it into six systems:

1. Breath holding diving
2. Diving bells and caissons
3. Diving chambers or submersibles
4. Helmet diving
5. Armored diving suits
6. Scuba

1. Breath holding diving

"Skin diving" started around 4,500 BCE. Some shells found in Mesopotamia could only have come from the sea floor. Around 2,500 BCE Cretan divers dove for sea sponges, which they sold. They and other Greeks dove for sponges until Dupont developed synthetic sponges in the 1940s. Divers also brought up pearls, murex for purple dye, and red coral for jewelry. They used weights to descend fast, and a rope to pull them up fast. Breath-holding with training and experience likely lasted 2-4 minutes.

Large scale pearl diving occurred in 550 BCE off India. Marco Polo said these divers could descend up to 90 to 120 feet! In ancient times they also used divers to salvage sunken treasure and for pier construction.

Aboriginal Caribbean pearl divers existed long before Columbus. On Columbus' third voyage, in 1498, his men discovered oyster beds off Cubagua Island near Venezuela, after seeing a Carib wearing pearls. The Carib divers soon died from European diseases, excessive demands for diving, or shark and manta ray attacks. So the Spanish also trained enslaved blacks to dive. The Spanish kept black and Indian diver teams and salvage outfits at Havana, Veracruz, Cartagena, and Panama City, ready to recover sunken treasure.

During the 1550s convoys (flotas) to prevent pirate attacks developed. Each ship had native or black divers who inspected ships below the water lines before they set sail. If a ship leaked during a voyage, they lowered their valuable divers on ropes to seal the holes with lead or to nail overlaid planks of wood.

On arriving at Seville's Torre de Oro, many ships would toss undeclared bullion overboard then send divers later to retrieve it. The Crown caught on and had their own competing divers look for the same treasure!

Bermuda privateers seized local pearl divers and forced them to salvage treasure. These divers stood the best chance of receiving their freedom under the pirates democracy. Salvaging sunken treasure ships was Bermuda's major industry from 1610 to 1650. The center of operations then moved to Port Royal, Jamaica.

In 1641, the flota for Spain had 8 galleons and 22 naos. Two days from Havana, a hurricane struck, sinking all except the almiranta, *Concepción*, which limped along till it struck a reef 50 miles north of Hispaniola. Of 600 souls, 400 sheltered on a sand spit, the other 200 sailed on rafts to Santo Domingo. Only a few survived. For 20 years the Spanish mounted over 60 failed expeditions to salvage the fleet.

William Phips caught the treasure bug early. He got English King Charles II to back him, then James II. He discovered the 1641 Concepción wreck and salvaged $12 million (today's figures) . The crown gave him one-sixth of it and a knighthood. In 1692, a major earthquake hit Port Royal, the pirate's capital in Jamaica. Much of the city became submerged. Divers had a heyday salvaging valuables.

In 1715, a hurricane hit the combined Plate fleet. They lost 14 million pesos off the coast of Florida. Port Royal skin divers swarmed the site recovering half a million pesos. Spain then sent warships to keep them at bay, then recovered around seven million pesos.

2. Diving Bells and Caissons

A 600 CE Arab historian wrote an account (? fanciful) that Alexander the Great descended in a diving bell to inspect diving actions during the siege of Tyre. Aristotle mentioned diving bells in 360 BCE. The first modern description of diving bells was in 1531 in Lake Nemi, south of Rome. They found Caligula pleasure galleys.

In 1689 a French physicist, Denis Papin, used a bell with fresh surface air from a bellows pump. This eliminated overheating and carbon dioxide buildup, and provided unlimited time and allowed greater depth bells.

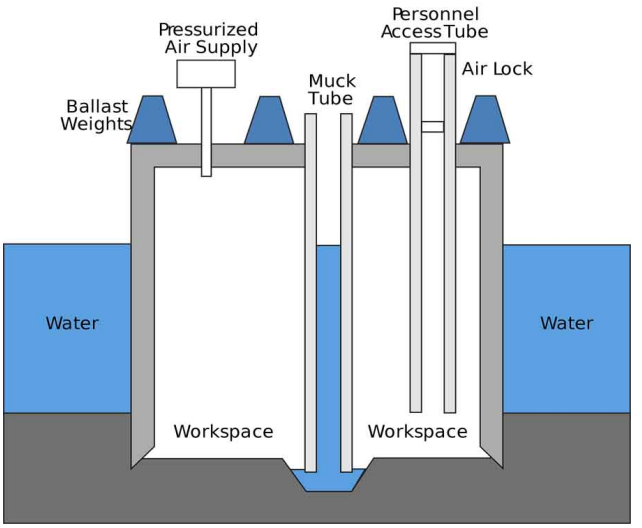


Open bottomed wet bell.

Surface pressure air would only occupy half the air at 34 feet depth, and a third at 68 feet. This reflects the atmospheric pressure of 34 feet of water at sea level. Thus, 34 feet below water, gas was compressed to two atmospheres. Pump capacity at the time was limited to only 68 feet, i.e., three atmospheres.

Caissons are similar to diving bells only they are larger. In 1788 John Smeaton invented the caisson. This was simply a mammoth diving bell of cast iron with 6-12 people working inside it. They used it to build the Plymouth lighthouse footings in England. Workers could spend hours or a day there as it was at a very shallow depth. If the bell is very deep, they pump in pressurized air to avoid the bends, and divers acclimatize (saturation diving).

Shallow caissons can be open to the air above. But they need to pressurize deeper caissons to stop seabed mud from being pushed up into the caisson. They can use deeper caissons to lay concrete footings on the seabed.



Enclosed pressurized caisson

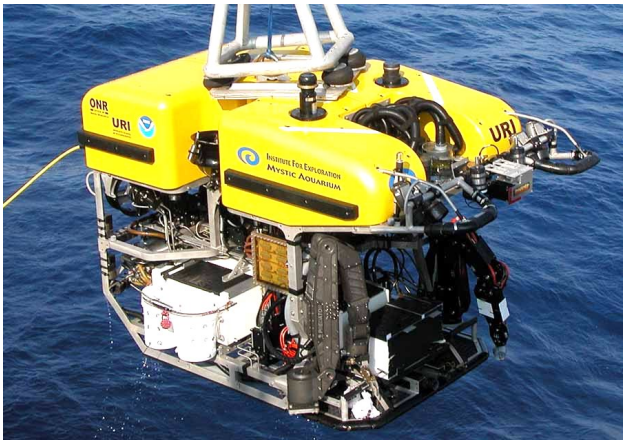
3. Diving chambers or submersibles

Englishman John Lethbridge invented a rigid 6 by 2 1/2 feet cone with arm holes, and a glass window. But over a depth of 50 feet, it leaked too much. It had a closed air system. Periodically the chamber resurfaced for an air change. He patented it in 1715.

Lethbridge salvaged the 1724 Slot der Hooge, a Dutch East India Company shipwreck off Porto Santo on Madeira Island.

Wood chambers ruptured at depth. So, steel chambers replaced them. The French engineer, Ernest Bazon, built a steel chamber in 1865 to salvage the Vigo Bay Treasure. In 1934 William Beebe and Otis Barton called their diving chamber a bathysphere. It descended to 3,000 feet.

Submersibles holding one, two or more people sprang up. Soon remote submersibles with video cameras, lights, sensors, and remote arms operated at great depths without needing humans. In 1988 the Columbus-America Discovery Group used an ROV (remotely operated vehicle) to salvage over $100 million of gold from USS Central America at a depth of 7,200 feet.



ROV Hercules 2005 Mystic Aquarium.

4. Armored Diving Suits.

These were also called atmospheric diving suits because, like a bathyscope, they isolated the diver from the outside pressure, so he could breathe regular air. These are really a subclass of diving chambers and submersibles. The problem was the early ones were very heavy and the divers poorly mobile. Suit weights reached 600 pounds. In the 1920s, the American, Benjamin Franklin Leavitt, designed a suit and salvaged wrecks. He tried to salvage the Lusitania but the British government repeatedly refused permission. The Italian Giovanni Quaglia salvaged the Egypt wreck from 1928 to 1932 for $6 million of gold. He used a diving observation chamber to guide grapple hooks and to lay explosives from the surface.



Atmospheric Diving Suit

5. Helmet Diving

Pumps in the 1700s could only create enough pressure for air at 15-20 feet below the surface. The problem is that every 34 feet below the surface the atmospheric pressure increases by one

atmosphere. Thus at 100 feet a pump must create four atmospheres, not one, of pressure.

In 1819 an Englishman, Augustus Siebe (the father of helmet diving), made a brass helmet into which air compressors on the surface pumped air. His suit had exhalation vents in the waist of his leather and canvas suit. But if the diver deviated from upright, the air all escaped via the waist vents.

In 1837 Siebe made a suit giving the diver the ability to control the air coming in. He could thus increase the pressure as the water pressure increased against his body on descent, and inflate his suit to ascend. By 1860, helmet diving suits replaced diving bells and caissons.

In 1885 Alexander Lambert salvaged the Spanish ship Alfonso XII at 162 feet. Others at the time would only go to 80 feet. He recovered the entire gold treasure of $500,000, but got the bends and had to retire.

In 1917, a German mine sunk the White Star Liner, Laurentic, off the Irish coast. She carried $25 million in gold bars. Under absolute secrecy a British navy salvage team disguised as a trawler raised the gold over six years from a depth of 132 feet using helmet divers.

The two dreaded complications of helmet diving were the bends and the squeeze. The bends are caused by nitrogen coming out of solution from the blood during ascent. The bubbles block blood vessels particularly in joints and the brain. The physiology of this was not appreciated until worked out by the Frenchman, Paul Bert, in 1878.

The squeeze was caused by a sudden loss of air pressure in the suit, like a blocked air line. When this happened the increased pressure at depth forced the skin into the helmet and tubes which was usually fatal. A mild case caused hemorrhage from the nose, ears and eyes.

By 1900, divers felt 120 feet was the limit of diving because of the bends, inefficient work at depth, and carbon dioxide poisoning. In 1907 the British physiologist, Haldane, worked out carbon dioxide poisoning and mandated 1.5 cubic feet of air per minute flow. Diving then became possible to 200 feet, which was the limit of air compressors at the time.



Helmet Diving Suit

Physiologists soon worked out that, to spend one hour at 300 feet, you would need a complex sequence of 7 1/2 hours of decompression to stop the bends.

When depths increased, a new problem came along — "raptures of the deep". This was caused by nitrogen narcosis. In the 1930s American Professor Elihu Thompson used a helium/oxygen mixture, which prevented nitrogen narcosis below 200 feet, and decreased decompression times.

6. Scuba Diving

Scuba stands for **S**elf-**C**ontained **U**nderwater **B**reathing **A**pparatus. In 1865 Benoit Rouquayrot and Auguste Denayrouze (both French) invented SCUBA. The diver had a cylinder on his back supplied by 40 atmospheres via a surface pump. The diver used a regulator to his mouth with a membrane sensitive to water pressure. As the pressure increased the membrane caused a valve to allow air into the suit. The regulator only sent air to the mouthpiece if the diver took a breath. This membrane regulator was a major advance.

In 1867 they also changed from goggles to a face mask so water pressure did not flatten the goggles against the eyes. Some apparatus used

scrubbers to remove carbon dioxide so the air could be re-used.

In 1926, Yves le Prieur used compressed air tanks without regulators and a constant flow. It is puzzling that it took until 1942 for Jacques Cousteau and Emile Gagnan to add back the membrane regulator. Their scuba modernized diving and led to the post war boom in recreational diving and treasure hunting on wrecks.



Modern Scuba Diver.

The Professional Association of Diving Instructors (PADI) in the US numbers 137,000. Twenty-seven million people have scuba dived in the US. Scuba diving uses the compressed air tanks with a regulator feeding into a nose and eye mask. By contrast "skin-diving" means snorkeling often with a spear gun to catch fish.

Shipwrecks

This is a vast subject. I will not list all treasure shipwrecks, but will list a small number important for cob collectors.

1. **Tumbaga ca. 1529**. Also called the Mimbres wreck off Grand Bahamas Island silver and gold Tarascan bars.
2. **Golden Fleece, ca. 1550**, probably somewhere north of Havana. Not to be confused with the 1684 Golden Fleece wreck. The 1550 wreck yielded Carlos and Juana pieces including several 8 reales and 3 reales pieces. All early assayers & G, R, A and L assayers.
3. **Padre Island 1554; four wrecks** off southern Texas. Mostly Carlos and Juana up to assayer S, who assayed in 1553 during L assayer's long reign from 1549-1568. Thus, early assayers and late assayers G, R, G, A, L, and S.
4. **Rill Cove Wreck 1618**, off Cornwall, UK. Yielded mostly Mexico cobs, and some Potosí and Spain cobs.
5. **San Martin 1618** off Florida near Vero Beach. Mexico and Potosí cobs.
6. **Atocha 1622** off Key West, Florida. This was the almiranta of the 1622 Fleet. Eight of the 28 ships wrecked, including the Santa Margarita and Dry Tortugas. Mel Fisher used huge publicity to sell the largest cache of silver cobs and ingots ever found — over 200,000 shield cobs of Mexico, Potosí, Lima and Spain, and 1,000 silver bars, valued in 1998 at $400 million. He opened a store and museum in Key West. But in 1998, he admitted selling several fake gold coins for $2,500 to $10,000 at his gift shop. He settled with the State before he died. Most Atocha cobs were cleaned and polished for the jewelry trade, rather than for numismatists.
7. **Santa Margarita 1622** shield silver cobs as above.
8. **Dry Tortugas 1622** yielded many gold but not silver bars, and 1,200 shield silver cobs.
9. **Sao Jose Wreck 1622**. An Anglo-Dutch Fleet attacked her off Mozambique in 1622. 20,000 shield silver Spain, Mexico and South American cobs.
10. **Lucayan Beach Wreck 1628** sunk off Grand Bahama Island. 10,000 Mexico 4 and 8 reales cobs, mostly dated assayer D (1618-1634).
11. **Concepción Wreck 1641** sunk off northern coast of Hispaniola. The almiranta of a 21-ship fleet carrying 100+ tons of bullion, salvaged by William Phips in 1687, and again by Burt Webber in 1978 yielding 60,000 Mexico Potosí and Cartagena shield silver cobs.
12. Jesus María de la Limpia Concepción (**Capitana of the South Seas Fleet) 1654** sunk off Chanduy, Ecuador, the largest loss of any Spanish South Seas Fleet, perhaps 10 million pesos. For eight years, salvors (mainly Bernardo de Campos, the ship's silver master) recovered 3 million pesos, which were lost again on the 1656 Maravillas wreck. 1990s salvors obtained 5,000 Potosí 4 and 8 reales counter marked, transitionals, and post-transitionals. Half were taken by the Ecuadorian government.
13. **Maravillas 1656** sunk off Grand Bahama Island as the almiranta of the Fleet with 5 million pesos listed. The Spanish salvaged about half of it over a few decades. Salvors re-salvaged it in 1970s yielding the same as the Capitana wreck and also Mexico silver cobs and previously unknown 1655 Cartagena silver cobs, one of which I show on page 196. Marex salvaged it again around 1990 finding many Bogotá 2 escudos.



1819

Tumbaga Gold Finger Bar Ca. 1528. 5 Tax, 6 Fineness & 2 Owner Stamps. 229 x 28 x 8 mm. 310 Grams





1477

GOLDEN FLEECE Wreck Ca. 1550 Off Cuba. Carlos & Juana, Late Series 4 Reales M-G. 33mm, 12.06 Grams VF



711

Padre Island Wrecks 1554 Carlos & Juana Late Series Alonso Gutiérrez M - A 4 Reales. Nes-58; 33mm, 13.39 Grams EF



836

RILL COVE WRECK 1618, Off Cornwall. Mexico 8 Reales ? Undated ? O Assayer; 34mm, 12.06 Grams Fair



1061

San Martin Wreck 1618 Off Wabasso Beach, Florida. Clump of 8 Reales, One Potosi, One Mexico. 39mm, 17.23 Grams, Poor



927

ATOCHA 1622, Off Florida Keys. Potosi R [1605(?)-1612] Shield 8 Reales. S-P 15; 37mm, 25.80 Grams F



1062

SANTA MARGARITA off Florida Keys 1622. Potosi Shield 8 Reales P-x-T (Tapia 1618-1623); 36mm, 12.53 Grams Fair



865

DRY TORTUGAS off Key West 1622. Potosi Shield 8 Reales; 36mm, 17.14 Grams VF/Fr



1689

SAO JOSE Wreck 1622 off Mozambique. Mexico 8 Reales 1618-1621 D. 38mm, 19.32Grams VF





925

LUCAYAN BEACH Wreck 1628, off Matanzas, Cuba. Mexico 8 Reales D Assayer 1618-1634. 37mm, 24.55 Grams VF+



939

CONCEPCIÓN WRECK 1641 OFF NORTH HISPANIOLA, POTOSI SHIELD 8 REALES; 35MM, 21.39 GRAMS G



1566

CAPITANA WRECK 1654, OFF CHANDUY, EQUADOR. POTOSI 8 REALES ROAS CROWNED F & CROWNED SHIELD C/S; 42MM, 25.46GRAMS VF



1690

MARAVILLAS WRECK 1656, Off Grand Bahama Island. Potosi 8R 1653 E (Elgueta); 36.5mm, 21.61Grams F

I have shown cobs from the first 13 shipwrecks. Ahead I show cobs from the last 8 shipwrecks. It is interesting to correlate the date of the shipwreck with the type of cob. Look for the Mexican cross, the design, the mint mark, the assayer mark, date, denomination and weight, if available.

14. **Jupiter Wreck (San Miguel el Arcángel) 1659** sank off Jupiter northeast Florida. This was not part of a treasure fleet but a lone mid-size dispatch boat called an "aviso". So far it has yielded low-end Mexico and Potosí cobs and a number of 1659 "Star if Lima" cobs.
15. **Consolación. In 1681** English pirates, led by Bartholomew Sharpe, attacked the lone galleon, which sank off Santa Clara Island, Ecuador. The ship should have been part of a South Seas Fleet, but got delayed so ended up going it alone. The Spanish crew set the ship on fire and tried to escape to Santa Clara Island. The angered pirates killed all of them. People later called the island Dead Man's Island (Isla de Muerto). Robert Marx, researching the ship's manifest in the Archivos de Indias, found a registered cargo of 146,000 pesos, of which only a small fraction have been salvaged, all Potosí tic-tac-toe silver cobs.
16. **Joanna, a British ship sunk 1682** off the tip of South Africa. Salvors brought up 23,000 Mexico 4 and 8 reales dated cobs of Charles II. The cobs are typically thin and featureless.
17. **1707 HMS Association** and four other ships sank of the Scilly Isles with the loss of 2,000 British sailors. This sparked off a search for a way to measure longitude. Salvors in the 1970s got thousands of coins including Lima and Potosí cobs dating back to the 1650s.
18. **1715 Fleet or Plate Fleet.** 12 ships sank off east Florida, losing 14 million pesos and over 1,000 lives, Spain's largest loss. The Spanish recovered about half the treasure, a portion of which English pirates raided. Kip Wagner organized salvage in the early 1960s, evolving into the Real Eight Company. They salvaged 10,000 Mexico, Bogotá, Lima, and Cuzco gold cobs. They also brought up over 100,000 silver cobs from Mexico, Lima and Potosí from the 1600s, with more coins after 1711. They still have not found all the ships. The 1715 Fleet Society, a group of aficionados, had 123 members in 2019.
19. **1733 Fleet.** A hurricane sunk 19 ships off the northern Keys of Florida, over an 80 mile area. Only one ship survived, limping back to Havana. Twelve million pesos were registered in the ships' manifests. The Spanish managed to salvage even more thanks to the usual undeclared bullion! In 1732 Mexico started milled rather than cob coinage. Nevertheless, salvors brought up many Mexico silver cobs.
20. **Vliegenthart Wreck 1735**, destined for the Dutch East Indies, sunk off Zeeland. They had 67,000 pesos, some Dutch ducatoons, and Mexico 8 reales cobs.
21. **British Princess Louisa 1743**, sunk off Cape Verde Islands after striking a reef. They had with 70,000 pesos of silver. Salvors brought up early 1700s silver cobs.

The **San José Wreck 1708** off Cartagena was found in 2015. Columbia estimated the treasure value at $10 to $20 billion, making it the world's richest shipwreck.

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.
Calico F. and X., and Trigo, J. *Numismatica Española.* Carlos Fuster-Bailen, Barcelona 1998.
Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks.* EN RADA publications, West Palm Beach, FL 2003.
Craig, A.K., *Spanish Colonial Silver Coins in the Florida Collection.* Iniversity Press of Florida, Gainesville, FL. 2000.
Downing, C.S., *The Charles and Joanna Silver Coinage of Santo Doming, 1542-1552.* Daniel Frank Sedwick Treasure Auction #14 October 30, 2013. pp99-103.
Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002
Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.
Opitz, C.J., An *Ethnographic Study of Traditional Money*. First Impressions Printing. 2001.
Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.
Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published. Laguna Hills, CA. 2005.
Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?*).Numismatics International bulletin-Volume 50. Nos. 1/2. January/February 2015. Dallas, Texas.
Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007
https://en.wikipedia.org/wiki/Spanish_treasure_fleet#/media/File:16th_-century_Portuguese_Spanish_trade_routes.png
https://en.wikipedia.org/wiki/Spanish_treasure_fleet#/media/File:Pedro_menendez_de_Aviles.jpg
https://en.wikipedia.org/wiki/Alvaro_de_Bazán,_1st_Marquess_of_Santa_Cruz#/media/File:AlvaroDeBazánRafaelTegeo1828.jpg
https://en.wikipedia.org/wiki/Galleon#/media/File:Cornelis_Verbeeck,_A_Naval_Encounter_between_Dutch_and_Spanish_Warships,_156252_original.jpg
https://en.wikipedia.org/wiki/Carvel_(boat_building)#/media/File:Clinker-carvel.svg
https://en.wikipedia.org/wiki/Square_rig#/media/File:Square-rigged_-_mainmast.jpg
https://en.wikipedia.org/wiki/Carrack#/media/File:Medieval_carrack_-_detail_by_Pieter_Bruegel_the_Elder.jpg
https://en.wikipedia.org/wiki/Patio_process#/media/File:Patio_Process.jpg
https://commons.wikimedia.org/wiki/File:Theodoor_de_bry.jpghttps://www.wikigallery.org/wiki/painting_202034/%28after%29-Le-Moyne%2C-Jacques-%28de-Morgues%29/Pack-Train-of-Llamas-Laden-with-Silver-from-Potosi-Mines-of-Peru
https://en.wikipedia.org/wiki/Lateen#/media/
https://en.wikipedia.org/wiki/Atmospheric_diving_suit#/media/File:Deep_Sea_Diving_Suit.jpghttps://upload.wikimedia.org/wikipedia/commons/3/3d/ROV_Hercules_2005.JPG
https://en.wikipedia.org/wiki/Caisson_(engineering)#/media/File:Caisson_Schematic.svg
https://en.wikipedia.org/wiki/Diving_helmet#/media/File:Divers_-_Illustrated_London_News_Feb_6_1873-2.PNG
https://7en.wikipedia.org/wiki/Surface-supplied_diving#/media/File:Scaphandrier_en_milieu_pollué_-_casque_aquadyne_ah3.JPG
https://en.wikipedia.org/wiki/Scuba_diving#/media/File:Buzo.jpg



926

JUPITER WRECK 1659, Off Jupiter Inlet, Florida. Potosi 8R 1653 E (Elgueta) 38mm, 22.09 Grams VF



867

CONSOLACIÓN WRECK 1681 off Santa Clara Island, Ecuador. Potosi 8 Reales 1679 C (Cejas); 38mm, 19.78 Grams F



868

JOANNA WRECK 1682, off South Africa. Mexico 8 Reales oM-P (Name Unknown 1634-1666) 37mm, 13.02 Grams F



804

HMS ASSOCIATION WRECK 1707, off Scilly Isles. 8 Reales Lima 1686 R (Miguel de Rojas Páramo) 39mm, 24.24 Grams VF



869

1715 FLEET WRECK off East Florida. Mexico 8 Reales Cob. 39mm, 21.57 Grams Poor



870

1733 FLEET WRECK, off Florida Keys. Mexico 8 Reales "Blackie" 32mm, 16.36 Grams Fair



1059

VLIEGENTHART WRECK 1735, OFF ZEELAND. MEXICO 8 REALES 1731 OM-F (FRANCISCO DE LA PEÑA FLORES 1730-1733) 35MM, 26.45 GRAMS VF



1064

PRINCESS LOUISA WRECK (1743). Off Cape Verde Isles. Unidentifiable Two One-Real Cob Cluster. 15mm, 1.35 Grams Poor

GLOSSARY COB ASSAYER IDENTIFICATION GUIDE



PRECOB STYLE



SHIELD STYLE



PILLAR STYLE



TIC-TAC-TOE STYLE

MEXICO PRECOB Mintmk M or oM

Assayer	Date	Name
	EARLY SERIES	NO WAVES
R	April 1536 to Spring or Summer 1538	Francisco del Rincón
P	Spring or Summer 1538 to Oct 1541	Pedro de Espina
F	A month or so late 1541 or early 1542	Esteban Franco
G	Dec 1541 to Feb 1542	Juan Gutiérrez
	LATE SERIES	WITH WAVES
G	Feb 1542 to Fall 1548	Juan Gutiérrez
R	Late 1544 for few months	Francisco del Rincón
A	Fall 1548 few months	Alonso Gutiérrez
L	Nov 1548 to before Jan 14, 1568	Luis Rodríguez
S	Briefly in 1553	Pedro de Salcedo
O	Briefly in 1561 Again 1564-1578 Stopped C&J coins 1571	Bernardo de Oñate

MEXICO COB Mintmk oM or oXM

Yellow = Gold Assayers. Dating starts 1607.

Assayer	Date	Name
O	1571?-1578?	Bernardo de Oñate
O	1578-1589	Luis de Oñate (son)
oF, F, FoD	1589-1599	Francisco de Morales
F	1599-1608	Francisco de Morales
A	1608-9	Antonio de Morales
F	1610-15	Francisco de Morales
D	1618-34	Unknown
P	1634-66	Pedro Bezerra
G	1666-77	Gerónimo Bezerra
L	1677-1705	Manuel de León
J	1705-24	José de Léon
D	1724-8	Santo Desierto del Monte Carmelo
R	1729-30	José de Rivas Angulo
G	1730	Diego Gonzalez de la Cueva
F	1730-33	Francisco de la Peña Flores
MF	1733-4	Manuel de Léon & Francisco de la Peña Flores

LIMA Mintmk P, L or *

Assayer	Date	Name
	PRECOB	STYLE
R	1568-157 1	Alonso de Rincón
X	1570-1	Xinés Martinez
	SHIELD	STYLE
X	1572	Martinez
oD	1577-87 1592	Diego de la Torre
	STAR OF	LIMA (PILLAR STYLE)
V	1659-60	Francisco de Villegas
	TIC-TAC-	TOE STYLE
V	1684-5 1689-90 1692-3	Juan de Villegas
R	165-8 1690-1	Miguel de Rojas Páramo
M	1694 1709 1711-27	Felix Cristóbal Cano Melgarejo
R	1695 1699	Miguel de Rojas, son of Páramo
H	1696-8 1700-5 1707-8 1710	Francisco Hurtado
R	1706	Leonardo de Rojas Grandson of Páramo
N	1728-40	Joaquin Negrón y Colmenares
V	1739-49	José de Vargas y Flor
R	1749-52	José Rodríguez de Carassa

Yellow = Gold cob assayers too

POTOSÍ COBS Mintmk P

Assayer	Date	Name
	SHIELD	STYLE UNDATED
R	1574-6?	Alonso del Rincón
M	1576?-7?	Unknown
L	1577?-8?	Unknown
B	1578?-86? 1589-92?	Juan Ballesteros Narváez
X	1580?	Unknown
S	1580?	Unknown
L	1580?	Unknown
C	1580?	Unknown
B	1580?-6?	Juan Ballesteros Narváez
A	1586-89	Juan Alvarez Reinaltes
R, RL	1593?-95? 1605?-12	Baltasar Ramos Leceta
B	1596?-1605?	Hernando Ballesteros, brother of Juan
C	1613-1616	Francisco de Calderón
Q	1613-16	Agustín de la Quadra
M	1616-17	Juan Sánchez Mejía
	SHIELD	STYLE DATED
PAL	1618	Pedro Martín de Palencia
T	1618-24 1627-39 1643-48	Juan Ximénez de Tapia
P, oP	1622-26 1628-29	? Pedro Martín de Palencia
TR, FR	1636-45	Pedro Treviño?
V	1646	Gerónimo Velázquez
R	1646-48	Felipe Ramirez de Arellano
Z	1647-49	Pedro Zambrano

Assayer	Date	Name
⊙	1649-51	Juan Rodríguez de Roas
E	1651-52	Antonio de Elgueta Also did Transitionals
	TIC-TAC-	**TOE STYLE**
E	1652-78	Antonio de Elgueta
C	1678-79	Manuel de Cejas
V, VR	1679-97	Pedro de Villar
CH	1697	Sebastián de Chavarría
F	1697-1701	Tomás Fernández de Ocaña
Y	1701-27	Diego de Ybarbouru
M	1728-32	José de Matienzo
YA	1732-33	Francisco de Yllaña
E	1733-37. 1750-51	Esteban Gutiérrez de Escalante
M	1737-40	Pedro Manrique de Jiménez
P	1740-42	Diego del Pui
C	1742-44,	José Carnizer
q	1744-60	Luis de Quintanilla
C	1753-54	José Maria Caballero
q-Y	1760	Luis de Quintanilla & Raimundo de Yturriaga
Y-V, V-Y	1760-1773	Raimundo de Yturriaga & José de Vargas y Flor
V-J	1770	José Vargas y Flor

POTOSÍ TRANSITIONALS

Type	Obv	Rev	Rev Above pillars	Rev Top Row	Rev bottom Row
I	shield	Pillar & Wave	dots	F 8 IIII	empty
II	shield	Pillar & Wave	dots	F 8 IIII	E E
III	shield	Pillar & Wave	dots	F 8 IIII	E . E
IV	shield	Pillar & Wave	dots	F 8 IIII	E 8 E
V	shield or cross	Pillar & Wave	dots	F 8 IIII	E 52 E
VI	shield	tic-tac-toe	.HP.	P 8 E	E 52 E
VII	shield or cross	tic-tac-toe	.HP.	P 8 E	E 52 P
VIII	shield	tic-tac-toe	1.PH.6	P 8 E	E 52 P
Post	cross	tic-tac-toe	1.PH.6	P 8 E	E 52 P

SANTO DOMINGO Mintmk SP or PS

Precob style

Assayer F for Francisco Rodríguez 1542-1564

Shield Style Mintmk osD

Rare X for Cristóbal Medina 1578

PANAMA Shield Style Mintmk AP

P-M 1580 Pedro Rodríguez & Miguel Hurtado de Vera?

oX 1580-82? Juan Gutiérrez (J & X pronounced same)

oB 1582?-83 Bernardino Rodríguez

Pedro and Bernardino were brothers.

BOGOTÁ Mintmk S,RN,NR,N,SF FS S F

Assayer	DATE	ASSAYER	AR	AV
	SHIELD	STYLE		
none	1622	SF for Santa Fe	yes	yes
A	1622	?Antonio Arias de la Rua	yes	
T	1627	Prob Alonso Turrillo	yes	yes
A	1627-8 1632-42	Alonso de Anuncibay	yes	yes
P	1627-32	Miguel Pinto Camergo	yes	yes
R	1642-51	Pedro Ramos	yes	yes
	PILLAR	STYLE		
Many	1651-79	Pedro Ramos	yes	yes
OL(S)M	1676	José de Olmo	yes	
G, RG	1676	Gaspar de los Reyes		yes
PG, GP,oP	1678-86	Pedro Garcia de Villanueva	yes	yes
IcMs sM	1687	José Martí	yes	yes
VA,AV, A ARCE	1691-1722	Buenaventura de Arce	yes	yes
S, SAN	1722-44	José Sánchez de la Torre	yes	yes
M	1732-44	Miguel Molano	yes	yes
S,SR	1744-56	Sebastián de Rivera		yes
MP	1748-55	Manuel de Porras	yes	

CARTAGENA Mintmk RN, NR, R or C

Assayer	DATE	Assayer	AR	AV
	SHIELD	STYLE		
A	1621-22	Antonio Arias de la Rua	yes	
H	1625-26	Juan de la Hera	yes	
E	1626-34	Carlos Echeverría	yes	yes
	PILLAR	STYLE		
S	1655	Bernabé Sanchez	yes	

CARTAGENA 2 ESCUDO DATING

Date	Outside	Inside	Fleurs-de-lys
1627 & 8	4 crosses	4 dots	small
1629	4 dots	4 crosses	large
1630	4 dots	4 dots	large
1631	4 crosses	4 dots	large
1632 & 3	4 crosses	4 crosses	large
1634	4 anulets	4 dots	branching
1635	4 anulets	4 crosses	branching

CUZCO Mintmk C

Assayer M for Félix Cristobal Cano
Melgarejo(?) 1698 one year only gold

GUATEMALA Mintmk G

Assayer J, José de León y Sosa 1733-53 silver
1733-53 gold bust klippe

List of Monarchs

Ferdinand and Isabella 1479-1516
Carlos and Juana 1516-1556
Philip II 1556-1598
Philip III 1598-1621
Philip IIII 1621-1665
Carlos II 1665-1700
Philip V 1700-1746
Louis I few months in 1724 then father took over
Ferdinand VI 1746-1759
Carlos III 1759-1788
Carlos IIII 1788-1808
Ferdinand VII 1808, then 1813-1833
Joseph Bonaparte 1808-1813

References

Bailey, D. and L., *Whitman Encyclopedia of Mexican Money. Volume I.* Whitman Publishing LLC, Atlanta, GA. 2014.
Calico F. and X., and Trigo, J. *Numismatica Española.* Carlos Fuster-Bailen, Barcelona 1998.
Craig, A.K., and Richards, E.J., *Spanish Treasure Bars from New World Shipwrecks.* EN RADA publications, West Palm Beach, FL 2003.
Downing, C.S., *The Charles and Joanna Silver Coinage of Santo Doming, 1542-1552.* Daniel Frank Sedwick Treasure auction #14 October 30, 2013. pp99-103.
Krause, C.L., and Mishler, C., *Standard Catalog of World Coins. Spain, Portugal and the New World.* Krause Publications, Iola, WI. 2002
Nesmith, R. I. *The Coinage of the First Mint of the Americas at Mexico City 1536-1572.* ANS. NY 1955.
Opitz, C.J., An *Ethnographic Study of traditional Money*. First Impressions Printing. 2001.
Pradeau, A.F., *Numismatic History of Mexico from the Pre-Columbian epoch to 1823.* Self-Published. Los Angeles, CA 1938.
Proctor, J. A., *The Forgotten Mint of Colonial Panama.* Self-published.Laguna Hills, CA. 2005.
Proctor, J.A., *The Assayers of the Mint of Mexico During the 16th Century Pillars Coinage, 1536-1571(?)*.Numismatics International bulletinVolume 50. Nos. 1/2. January/February 2015. Dallas, Texas.
Sedwick, D. and F., *The Practical Book of Cobs.* 4th Edition. Self-published. Winter Park, FL. 2007

SPANISH MONARCHS



Ferdinand II



Isabella

m.1469
Ferdinand II Aragon † 1516 = **Isabella** Castile & Leon † 1504
|__Both ruled 1479 to death___|
|



Juana La Loca

Juana La Loca (Joanna the mad) ruled Castile from 1504 and Aragon from 1516, † 1555 = Philip I Habsburg "The Handsome" † 1506
|_____|
|



Carlos I

Isabella of Portugal = **Carlos I 1516-1556** inherited Habsburg monarchy 1519 became HRE Carlos V
|_____|
|

Philip II 1556-1598 = Anna of Austria (3 other wives)
|_____|
|



Philip II married Mary I

Margaret of Austria = **Philip III 1598-1621**
|_____|
|



Philip III

Philip IV 1621-1665 = Elizabeth of France
|_____|
|



Philip IV

Charles II 1665-1700 childless. He was granduncle to Philip Bourbon of Anjou, whom he named as his successor as he was childless. This provoked the 13 year War of Spanish Succession until the Treaty of Utrecht, which forbade unifying the Spanish and French crowns to preserve the European balance of power.



Carlos II

Philip V 1700-1746
Maria Luisa of Savoy | | Elizabeth Farnes
|_____|_____|

Louis I 1724 † **Ferdinand VI 1746-1759** **Carlos III 1759-1788**



Philip V



Louis I † aged 24



Ferdinand VI Popoyan 2E #2477



Carlos III R Mexico 8R #1410



Carlos IIII 1788-1808 son of Carlos III. From Mexico 8Reales #30

Ferdinand VII 1813-1833, son of Carlos IIII. Ruled after Joseph Bonaparte. From Mexico 8R #1327



THE HABSBURG JAW

Juana La Loca married a Habsburg, Philip the Handsome. Intermarriage between cousins strengthened this new bloodline. This produced increasing density of recessive genes, resulting in some severe cases of "Habsburg Jaw". This condition produced changes in the face:

- unusually thick fleshy lips for a man
- everted lower lip
- protruding lower jaw (prognathism), which meant the individual had difficulty talking, and could only exist on soft food that did not need chewing.
- long prominent noses with a hump in the middle and a bulbous hanging tip to the nose
- large tongue
- sagging lower outer eyelids

Philip IV below had unusually bulbous lips for a man.



His son Carlos II below suffered even more:



Virtually from the moment he was born everyone was waiting for him to die. They called him "El Hechizado" — the bewitched. It is hypothesized that he also had an under-active pituitary gland. The Pituitary is needed for testicular development. When he died he had only one small scarred testicle. Though early in life he may have suffered from premature ejaculation, he would almost certainly have been impotent later in life. Others say he had neonatal herpes simplex encephalitis resulting in hydrocephalus (water on the brain) causing epilepsy. In addition he had renal tubular acidosis which causes rickets and kidney stones. He only learned to speak at the age of four and was prone to illnesses. He died aged 38.

Below is a taler depicting "King Leopold the Hog mouth," another Habsburg monarch who suffered from the disorder:



LEOPOLD THE HOG MOUTH 1657-1705. AUSTRIA TALER 1695. OBV: ARMORED BUST RIGHT. INSCR: LEOPOLDVS:D:G:ROM:IMP:SE:A:G:H:B:REX, (LEOPOLD BY GRACE OF GOD, EMPEROR OF ROMANS, ALWAYS AUGUST, KING OF GERMANY, HUNGARY & BOHEMIA). REV: CROWNED SHIELD COLLARED BY ORDER OF GOLDEN FLEECE. INSCR: ARCHID:AVST:DVX:BV:COM:TYR. (ARCHDUKE AUSTRIA, DUKE BERGUNDY, COUNT TYROL). DAV 3245; 28.29 GRAMS, 42 MM AU

2391

Ten Spanish Colonial Mints

(Dates refer to when they struck coins, not when they opened the mint)

1. Mexico City 1536-1821.
2. Santo Domingo 1542-1552 silver, 1563 copper. 1578 for 1 year.
3. Lima, Peru 1568 intermittent closures, permanently open since 1684.
4. La Plata (now Sucre, co-capital of Bolivia) 1573-4
5. Potosí, Bolivia 1574-1825.
6. Panama 1580-1583
7. Cartagena, Colombia 1621-1655.
8. Santa Fe de Bogota, Colombia, 1622-1822.
9. Cuzco, Peru 1698.
10. Guatemala 1733-1821.

(Santiago de Cuba 1741 produced rare coppers)

Spanish Colonial Administrators

Governors of West Indies

Christopher Columbus 1492-1499
Francisco de Bobadilla 1499-1502
Nicolas de Ovando y Caceres 1502-1509
Diego Columbus 1509-1518
Diego Velazquez de Cuellar 1518-1524

Governors of New Spain

Hernando Cortez (English spelling) Hernán Cortés (Spanish spelling) 1521-1526 on and off.
Luis Ponce de León, Marcos de Aguilar, Alonso de Estrada and Luis de la Torre, 1526-1528.
Diego Delgadillo (1st Audiencia) 1529-1531.
Five members of 2nd Audiencia 1531-1535.

Early Viceroys of Nueva España

Antonio de Mendoza 1535-1550
Luís de Velasco 1550-1564
Short stand-ins 1564-1568
Martín Enríquez de Almanza 1568-1580
77 Viceroys in total until 1821.

The King had absolute power. He appointed Viceroys, but each were balanced by Audiences with their own President in the viceroyalty. In Spain the Consejo de las Indias (Council of the Indies) helped the King reach many decisions, which were often legally based.

Viceroyalties

Nueva España 1535
Peru 1544
New Granada (present day Colombia, Ecuador, Venezuela, Panama) 1717
La Plata (Argentina, Bolivia, Uruguay, Paraguay) 1776.

Audiencias started

Santo Domingo 1511, effective 1526.
Mexico 1527 predated Viceroyalty
Panama 1538-1543, second 1565-1718
Guatemala 1543-1565
Guadalajara 1548
Quito 1563
Manila 1583

American tribes, what they became, who conquered them, and when the Capital city was founded

Tribe	Country	Conquist-ador	Capital	Date
Aztec Toltec	Mexico	Hernando Cortez	Mexico City	1522
Mayan	Guatemala (Mexico)	Pedro de Alvarado	Old Guatemala City	1524
Inca	Peru, (Bolivia & Ecuador)	Francisco Pizarro	Lima	1535
Chibchas	Colombia	Gonzalo Jiménez	Bogota	1538
Araucanian	Chile	Pedro de Valdivia	Santiago	1541

Mint positions #1 was Treasurer, #2 was Assayer. Positions were granted by the Crown, buyable, rentable, and transferable.

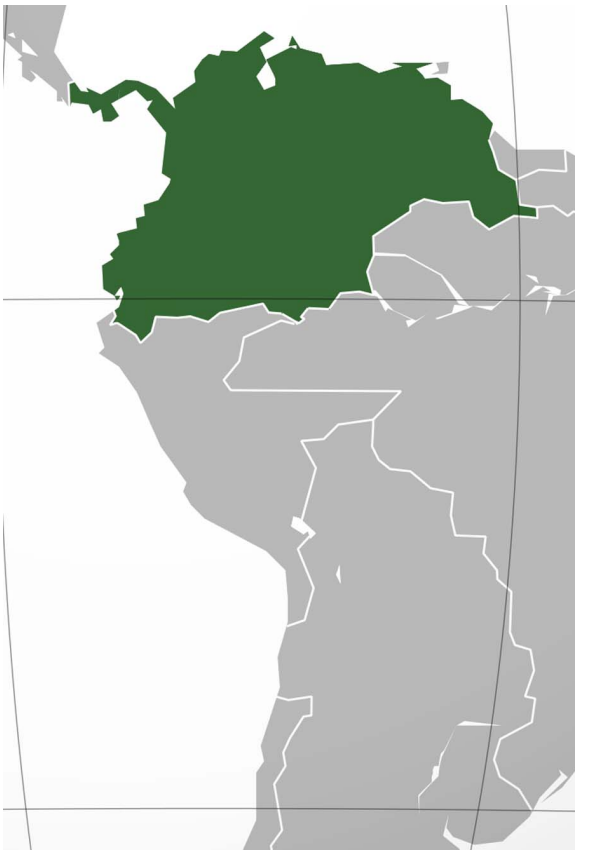
Theories on Origin of $ sign:

- 1 Peso = 8 reales. Ps became $.
- Reverse of most 1/2 reales had last letter of king as S with line through it.
- Pillars of Hercules with ribbon.

Matronymic naming. Pablo Ruiz Picasso: Pablo was given name, Ruiz was father's name, Picasso was mother's name. Pablo Picasso is popular. Pablo Ruiz Picasso used for signature. People added "de" to denote nobility e.g. Juan Carlos de Borbón. Many added toponymic names for class e.g. de Balboa. If Eduardo Fernández Garrido marries Maria Martínez Ruiz, they could name their son José Fernández Martínez. He is called José Fernández or Señor Fernández, but signs as José Fernández Martínez. Listed as Fernández Martínez. Using a "de" can also refer to marriage, hence when Pablo Chacón marries María Pérez, she could become María Pérez de Chacón.



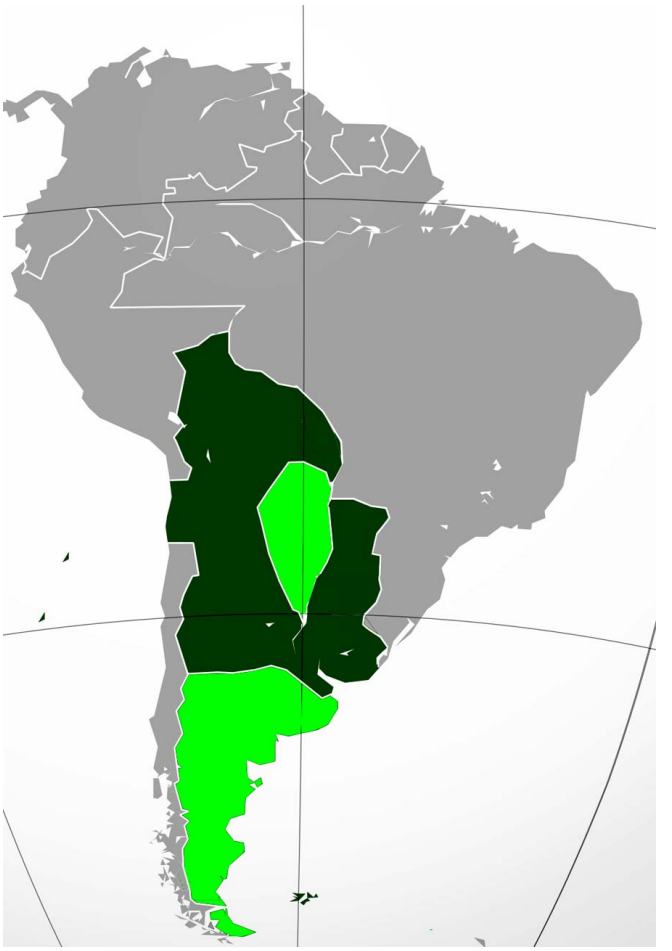
Viceroyalty of New Spain 1524.



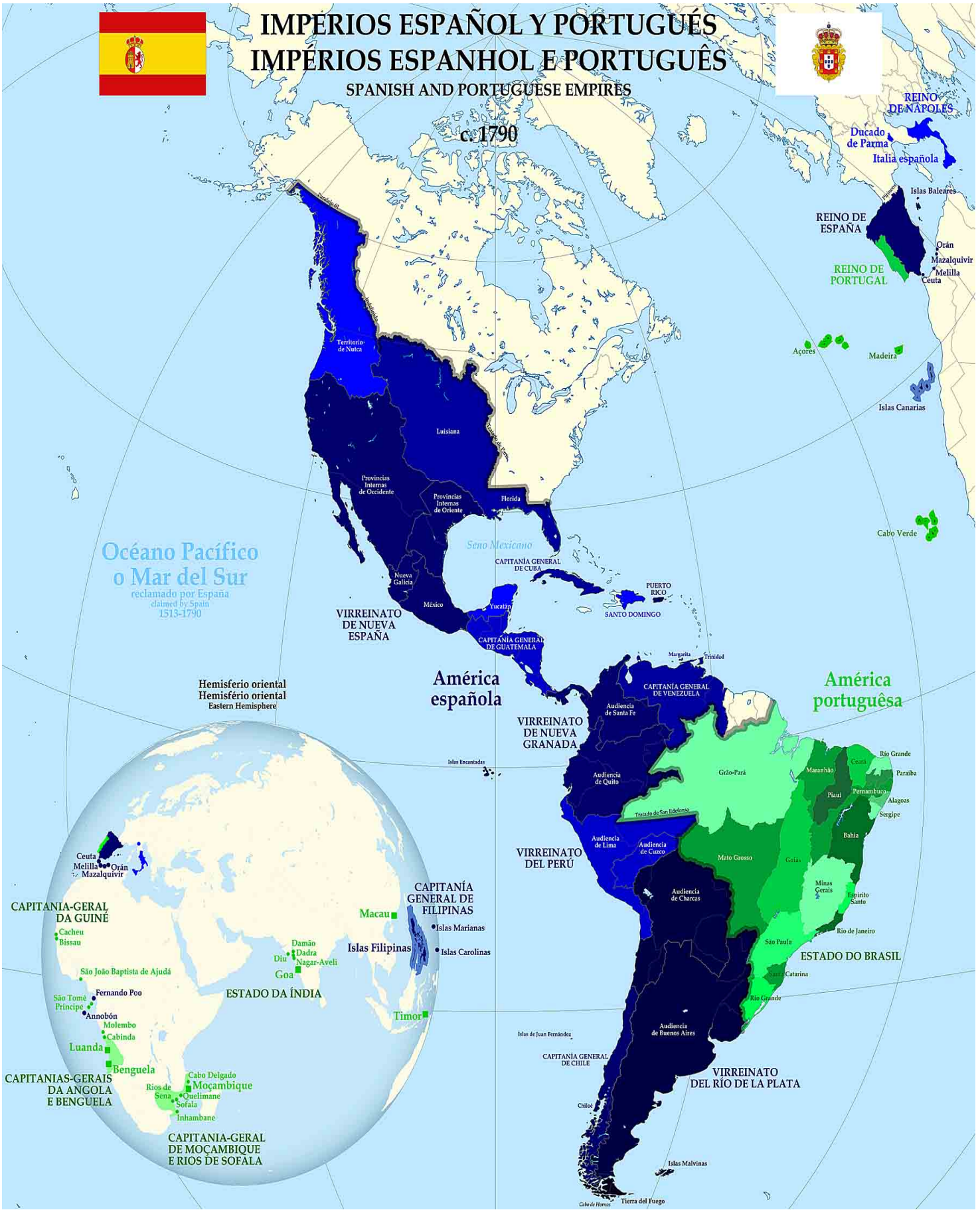
Viceroyalty of New Granada 1717 (present day Colombia, Ecuador, Venezuela, Panama).



Viceroyalty of Peru 1544.

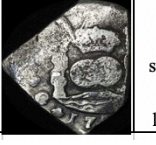


Viceroyalty of Rio de la Plata 1776.



Viceroyalties (virreinatos) of New Spain, Peru, New Granada and La Plata in 1790.

SPANISH AMERICAN SILVER COBS

Type	Obverse	Obverse markings	Reverse	Rev Markings	1/4	1/2	1	2	3	4	8	Date	Assayers
C&J Mexico Early		oM and oM/Assayer		Pillars + label denom								1536-1542	R,P,F,G,
C&J Mexico Late		oM oMo or M one side assayer other side		|| denom ||								1542-1571	G,R,G,A,L,S,L,O
C&J Santo Dom		F and Denom		S Pillars P + label							?	1542-1552	F
First Lima		R or X assayer		P + denom.								1568-1571	R,X
Mexico		oM then Assayer/denom		none								1573-1607 undated	O,oF,F,F-oD,F,
Mo dated		oM then Assayer / denom		none								1607-1773 dated	F,A,F,D,P,G,L,J,D,R,G,F, MF
Santo Domingo		oSD/X		none								1578	X
Second Lima shield		* denom / P oD or PX		none								1572 1577-1587 +1592 and undated	X,oD
Third Lima Star of Lima		denomV||L*M ||denom V		none								1659-1660	V
Fourth Lima P&W		L to left, Assayer to right		L | denom | assayer PLVSVLTRA assayer | date | L								1684-1752	V,R,V,R,V,M,R,H,R,H,R, H,M,H,M,N,V,R
La Plata and Potosi shield		P over R to left dennom to right P over assayer left denom to right		none								1573-1574 1574-1652	R only half reales attributable R,M,L,B,X,S,L,C,B,A,B,Ror RL,B,R,C,Q,M,PAL, T,P,T,P or oP, T,P,T,TR,FR,TR,T,V,P,R, Z,O,E,
Potosi shield	Countermark											1640s to 1652	20 C/Ms of recent assayers
Potosi Trans		Transitional		Transitional								1652	E transitional 8 McLean types
Potosi P&W												1652-1773	E,C,V,VR,CH,F,Y,M,YA, E,M,P,C,q,E,q,C,q, q-Y,Y-V,V-Y,V-J,V-Y,
Panama City		A over P one side assayer other side		none								1580-1583	P-M, oX, C-oX, oB
Cartagena shield		R over N one side or N over R Assayer same or other side		none								1621-1635	A, H, E
Cartagena P&W		C over S on right denom to left		none								1655	S
Bogota shield		N over R over assayer to one side denom to other		none								1622-1651	A,T,A,P,A,R,
Bogota P&W		Later ones have assayer on one side and denom on other side of shield		||denom over NR|| vertical assayer to left of pillars date to right								1651-1748	Variations on PoRAMOS, Variations on OLSM, G (or P, P.G. or PoGa), IeMs, G (or P, P.G. or PoGa), V.A. (or ARCE), A9or ARC), S (or SAN),M, MP
Guatemala		Pillar dollar struck on cob like planchet		Pillar dollar struck on cob like planchet								1733-1753	J

Styles of Silver Cobs

Precobs shield/pillars, round and well struck:
- Carlos and Juana early and late
- Santo Domingo
- Early Lima first opening

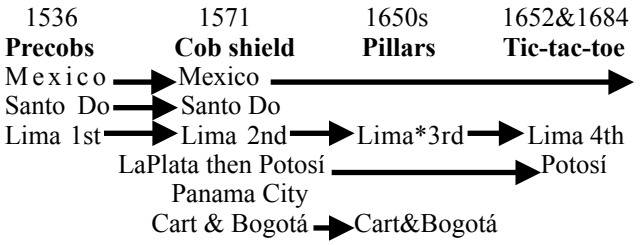
Shield/Cross denomination, assayer and mint usually shield side, used for mints starting 1571 to 1651:
- Mexico undated 1571-1607, and dated 1607-1733
- Lima second opening
- La Plata then Potosí
- Panama City
- Cartagena and Bogotá

Pillars/Cross used for mints starting 1651-1659
- Third Lima opening Star of Lima
- Cartagena and Bogotá "Pillar and Waves"

Tic-tac-toe (with cross obverse) used for mints starting 1652-1684
- Lima Pillar and Waves fourth opening
- Potosí Pillar and Waves

Thus precobs lasted around 1536 to 1571. In 1571 mints started cobs using a shield obverse and cross reverse. This included Mexico, Lima, Potosí, Panama, and the two Colombia mints.

After the Potosí Mint scandal in 1649-1652, all mints except Mexico changed silver to the Pillar style. There were two pillar styles, plain pillars and tic-tac-toe. The star of Lima and the two Colombia mints used the plain pillars. Potosí and the final Lima mint used the tic-tac-toe:



METROLOGY

Different authorities give different weights and fineness figures. This is as close as I can get to the real numbers!

Gold fineness
1622 91.67%
1772 90.103%

Silver fineness:
1536-1728 93.06%
1728-1772 91.67%
After 1772 90.30%

Mexico gold peso 1526-1536 = 6.22 grams
1 peso of tepuzque = 272 maravedi
1 peso of unrefined gold (mined gold) = 300 maravedis
1 peso of assayed gold = 450 maravedis
34 maravedi = 1 real

1536 King Charles I called in all tepuzque and prohibited any further gold coinage in New World.

1622 First gold cobs in Bogotá

1 mark of silver = 67 reales = 230.0445 grams
1 mark of gold = 68 escudos = 230.0445 grams

Thus before 1728, 1 real of silver weighed 3.4335 grams and 1 escudo of gold weighed 3.3830 grams (because of different numbers to the mark)

1 silver Peso = 8 reales = 27.4680 grams.
In 1728 they reset the peso to 27.06429 grams.

1 gold Peso = 8 escudos = 27.064 grams.

16 reales (51.1234 grams actual silver weight) = 1 escudo (3.101117 grams actual gold weight) Thus:
Silver : Gold ratio = 16.4854:1 bullion weight
Silver : Gold ratio = 16.2388:1 coin weight

Gold Denominations:
8, 4, 2, 1, escudos

Silver denominations:
8, 4, (3), 2, 1, 1/2 (medio) and 1/4 (cuartillo)

Gold Coins
In 1284 Venetians first minted their gold ducat containing 3.521 grams of 98.96% gold (actual gold weight 3.484442 grams).

The Ordinance of Medina del Campo (site of a medieval fair in north central Spain) in 1497 set the Spanish excelente to the same weight and fineness as a ducat. In 1504 they changed the name of excelente to ducado.

1537 Charles I set 8 escudos at 27.4680 grams of 91.67% gold Thus 1 escudo weighed 3.3830 grams (actual gold weight 3.101117 grams). Also this allowed 68 escudos to the mark (68 x 3.3830 grams = 230.044 grams).

The escudo weighed less than the real because there were 68 escudos to the mark, not the 67 reales there were in the silver mark. Authorities tolerated silver 8 reales 0.3 to 1 gram low, but not gold pieces.

In 1728 silver followed the same weights, fineness and number of units to the mark as gold.

References

https://upload.wikimedia.org/wikipedia/commons/d/d5/3157_Print_14632kopie.jpg
https://en.wikipedia.org/wiki/Joanna_of_Castile#/media/File:Meister_der_Magdalenenlegende_002.jpg
https://en.wikipedia.org/wiki/Charles_V,_Holy_Roman_Emperor#/media/File:Jakob_Seisenegger_001.jpg
https://en.wikipedia.org/wiki/Ferdinand_II_of_Aragon#/media/File:Michel_Sittow_004.jpg
https://en.wikipedia.org/wiki/Philip_IV_of_Spain#/media/File:Felipe_IV_de_castaño_y_plata,_by_Diego_Velázquez.jpg
https://en.wikipedia.org/wiki/Philip_V_of_Spain#/media/File:Felipe_V_de_España,_Rey_de.jpg
https://en.wikipedia.org/wiki/Louis_I_of_Spain#/media/File:Luis_I,_rey_de_España.jpg
https://en.wikipedia.org/wiki/Currency_of_Spanish_America

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Passionate collector, Dr. Peter Jones, describes his fascination with America's first coins that we now call cobs. The Spanish dominated the New World for three centuries, importing thousands of tons of gold and silver, changing the world's economy. This book tells the stories behind these coins.

Peter trained at Cambridge and Oxford Universities, UK, doing a dual residency in Family Practice and Internal Medicine. In 1977 he immigrated with his wife, Ann, and their three daughters to rural Connecticut, where he practiced Internal Medicine for 39 years.

His avocations have included classical piano, flamenco and classical guitar, classical harmonica, American financial history, numismatics and magic. He is a life member of ANA, NENA and USMEXNA, member of ANS, IBSS, C4 and MCA, and president of his local coin club, the Mansfield Numismatic Society. He has also authored *Notable Notes*, *Colonial History in Your Hands*, *Dow Jones by Peter Jones*, *Commemorative Coin Tales*, *The First Medals of America*, and, with Cynthia Adams, *Therapeutic Communication*, now in its third edition.

